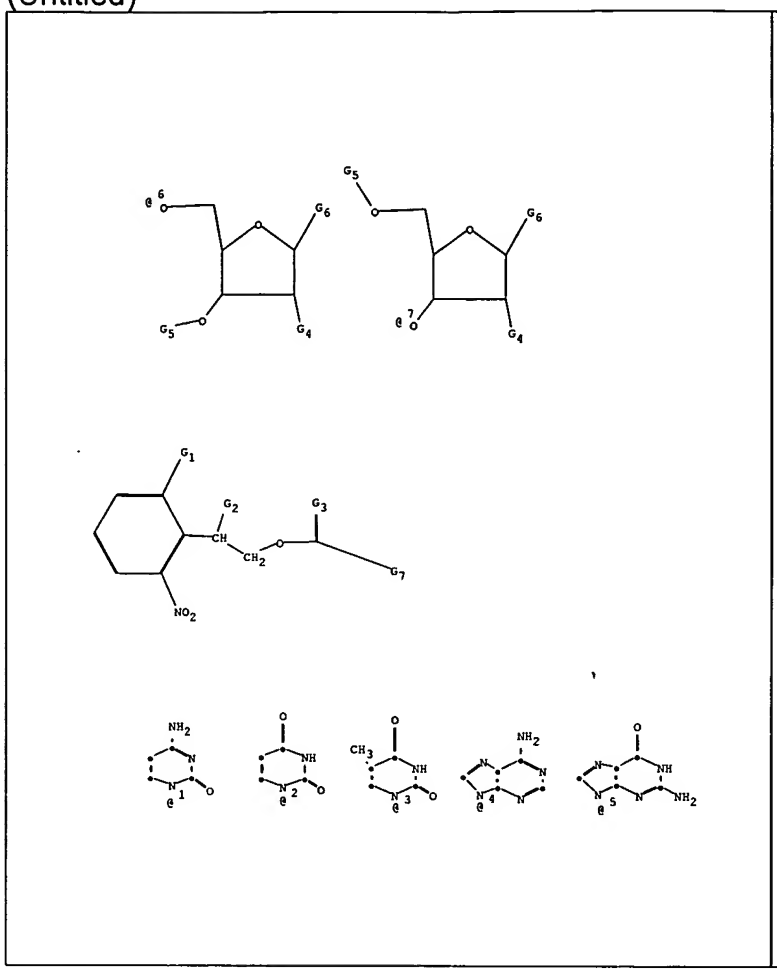
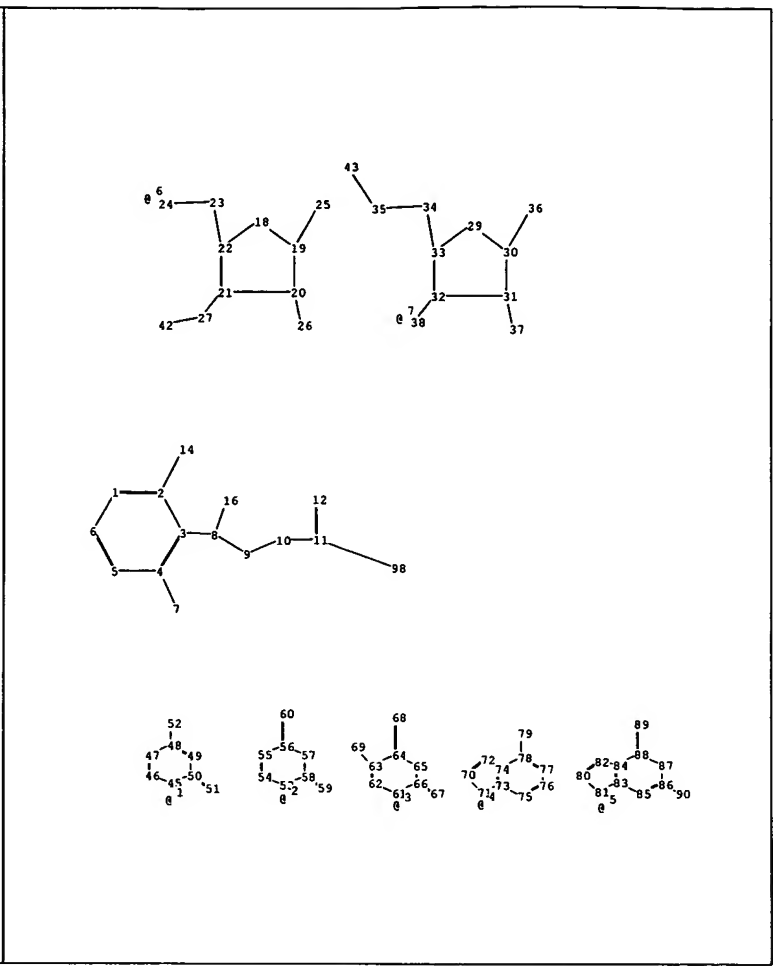
```
=> d his

     (FILE 'HOME' ENTERED AT 18:29:47 ON 29 AUG 2006)

     FILE 'REGISTRY' ENTERED AT 18:29:58 ON 29 AUG 2006
L1              STRUCTURE UPLOADED
L2            2 S L1 SSS SAM
L3           88 S L1 SSS FULL

     FILE 'CAPLUS' ENTERED AT 18:32:19 ON 29 AUG 2006
L4           28 S L3

     FILE 'HOME' ENTERED AT 18:34:26 ON 29 AUG 2006
```

(Untitled)





chain nodes :

7 8 9 10 11 12 14 16 23 24 25 26 27 34 35 36 37 38 42 43 51 52 59 60 67 68 69 79 89 90 98

ring nodes :

1 2 3 4 5 6 18 19 20 21 22 29 30 31 32 33 45 46 47 48 49 50 53 54 55 56 57 58 61 62 63 64 65 66 70 71 72 73 74 75 76 77 78 80 81 82 83 84 85 86 87 88

chain bonds :

2-14 3-8 4-7 8-9 8-16 9-10 10-11 11-12 11-98 19-25 20-26 21-27 22-23 23-24 27-42 30-36 31-37 32-38 33-34 34-35 35-43 48-52 50-51 56-60 58-59 63-69 64-68 66-67 78-79 86-90 88-89

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-22 19-20 20-21 21-22 29-30 29-33 30-31 31-32 32-33 45-50 45-46 46-47 47-48 48-49 49-50 53-58 53-54 54-55 55-56 56-57 57-58 61-66 61-62 62-63 63-64 64-65 65-66 70-71 70-72 71-73 72-74 73-74 73-75 74-78 75-76 76-77 77-78 80-81 80-82 81-83 82-84 83-84 83-85 84-88 85-86 86-87 87-88

exact/norm bonds :

2-14 8-16 10-11 11-12 11-98 18-19 18-22 19-20 19-25 20-21 20-26 21-22 21-27 23-24 27-42 29-30 29-33 30-31 30-36 31-32 31-37 32-33 32-38 34-35 35-43 45-50 45-46 46-47 47-48 48-49 48-52 49-50 50-51 53-58 53-54 54-55 55-56 56-57 56-60 57-58 58-59 61-66 61-62 62-63 63-64 64-65 64-68 65-66 66-67 70-71 70-72 71-73 72-74 78-79 80-81 80-82 81-83 82-84 83-84 83-85 84-88 85-86 86-87 86-90 87-88 88-89

exact bonds :

3-8 4-7 8-9 9-10 22-23 33-34 63-69

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 73-74 73-75 74-78 75-76 76-77 77-78

G1:H,Cl,Br,F,I,NO2

G2:H,MeO,Ak

G3:O,S

G4:H,O,S

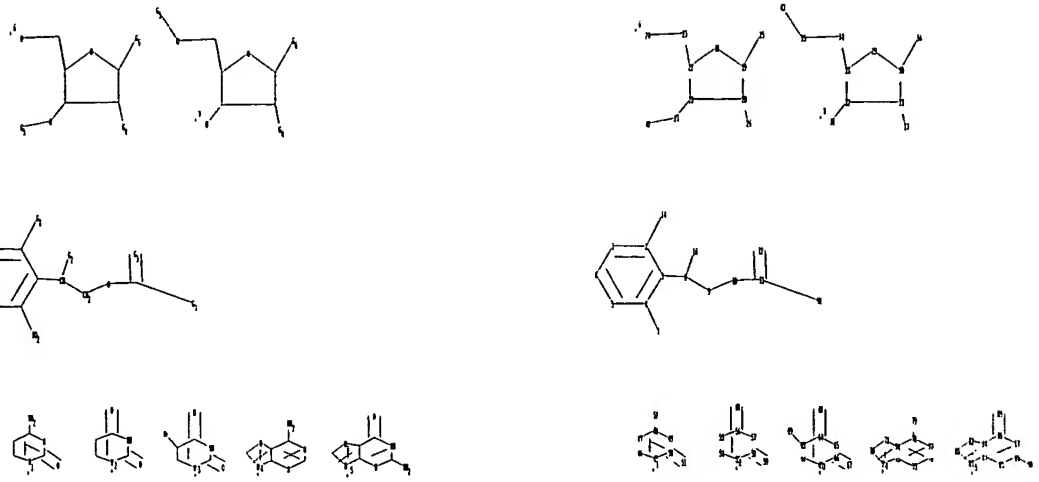
G5:H,N

G6:[*1],[*2],[*3],[*4],[*5]

G7:[*6],[*7]

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS 12:CLASS 14:CLASS 16:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 29:Atom 30:Atom 31:Atom 32:Atom 33:Atom 34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 42:CLASS 43:CLASS 45:Atom 46:Atom 47:Atom 48:Atom 49:Atom 50:Atom 51:CLASS 52:CLASS 53:Atom 54:Atom 55:Atom 56:Atom 57:Atom 58:Atom 59:CLASS 60:CLASS 61:Atom 62:Atom 63:Atom 64:Atom 65:Atom 66:Atom 67:CLASS 68:CLASS 69:CLASS 70:Atom 71:Atom 72:Atom 73:Atom 74:Atom 75:Atom 76:Atom 77:Atom 78:Atom 79:CLASS 80:Atom 81:Atom 82:Atom 83:Atom 84:Atom 85:Atom 86:Atom 87:Atom 88:Atom 89:CLASS 90:CLASS 98:CLASS



chain nodes :
7 8 9 10 11 12 14 16 23 24 25 26 27 34 35 36 37 38 42 43 51 52
59 60 67 68 69 79 89 90 98
ring nodes :
1 2 3 4 5 6 18 19 20 21 22 29 30 31 32 33 45 46 47 48 49 50
53 54 55 56 57 58 61 62 63 64 65 66 70 71 72 73 74 75 76 77 78
80 81 82 83 84 85 86 87 88
chain bonds :
2-14 3-8 4-7 8-9 8-16 9-10 10-11 11-12 11-98 19-25 20-26 21-27 22-23
23-24 27-42 30-36 31-37 32-38 33-34 34-35 35-43 48-52 50-51 56-60 58-59
63-69 64-68 66-67 78-79 86-90 88-89
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-22 19-20 20-21 21-22 29-30 29-33
30-31 31-32 32-33 45-50 45-46 46-47 47-48 48-49 49-50 53-58 53-54 54-55
55-56 56-57 57-58 61-66 61-62 62-63 63-64 64-65 65-66 70-71 70-72 71-73
72-74 73-74 73-75 74-78 75-76 76-77 77-78 80-81 80-82 81-83 82-84 83-84
83-85 84-88 85-86 86-87 87-88
exact/norm bonds :
2-14 8-16 10-11 11-12 11-98 18-19 18-22 19-20 19-25 20-21 20-26 21-22
21-27 23-24 27-42 29-30 29-33 30-31 30-36 31-32 31-37 32-33 32-38 34-35
35-43 45-50 45-46 46-47 47-48 48-49 48-52 49-50 50-51 53-58 53-54 54-55
55-56 56-57 56-60 57-58 58-59 61-66 61-62 62-63 63-64 64-65 64-68 65-66
66-67 70-71 70-72 71-73 72-74 78-79 80-81 80-82 81-83 82-84 83-84 83-85
84-88 85-86 86-87 86-90 87-88 88-89

```
exact bonds :
3-8  4-7  8-9  9-10  22-23  33-34  63-69
normalized bonds :
1-2  1-6  2-3  3-4  4-5  5-6  73-74  73-75  74-78  75-76  76-77  77-78


G1:H,Cl,Br,F,I,NO2

G2:H,MeO,Ak

G3:O,S

G4:H,O,S

G5:H,N

G6:[*1],[*2],[*3],[*4],[*5]

G7:[*6],[*7]

Match level :
1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:CLASS  8:CLASS  9:CLASS  10:CLASS
 11:CLASS  12:CLASS  14:CLASS  16:CLASS  18:Atom  19:Atom  20:Atom  21:Atom
22:Atom  23:CLASS  24:CLASS  25:CLASS  26:CLASS  27:CLASS  29:Atom  30:Atom
31:Atom  32:Atom  33:Atom  34:CLASS  35:CLASS  36:CLASS  37:CLASS  38:CLASS
42:CLASS  43:CLASS  45:Atom  46:Atom  47:Atom  48:Atom  49:Atom  50:Atom  51:CLASS
52:CLASS  53:Atom  54:Atom  55:Atom  56:Atom  57:Atom  58:Atom  59:CLASS  60:CLASS
61:Atom  62:Atom  63:Atom  64:Atom  65:Atom  66:Atom  67:CLASS  68:CLASS  69:CLASS
70:Atom  71:Atom  72:Atom  73:Atom  74:Atom  75:Atom  76:Atom  77:Atom  78:Atom
79:CLASS  80:Atom  81:Atom  82:Atom  83:Atom  84:Atom  85:Atom  86:Atom  87:Atom
88:Atom  89:CLASS  90:CLASS  98:CLASS



L1      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l1 sss sam
SAMPLE SEARCH INITIATED 18:31:07 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        9 TO ITERATE

100.0% PROCESSED        9 ITERATIONS                                  2 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:             9 TO      360
PROJECTED ANSWERS:                2 TO      124

L2            2 SEA SSS SAM L1

=> d l2 hitstr
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:
```

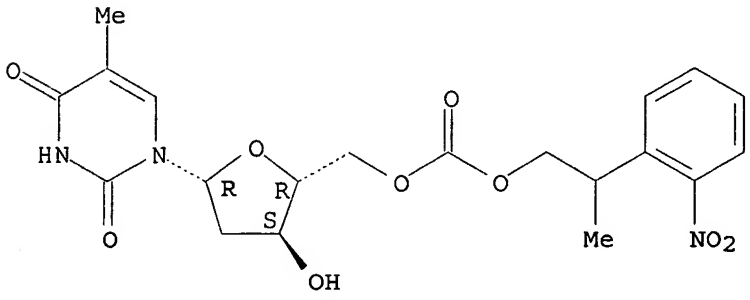
Jason; Singer, Michael; Green, Roland D.; Pfleiderer, Wolfgang; Steiner, Ulrich E.
CORPORATE SOURCE: University of Konstanz, Konstanz, D-78457, Germany
SOURCE: Helvetica Chimica Acta (2004), 87(1), 28-45
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Conditions and kinetics of triplet sensitization as a method for increasing the light sensitivity of photolabile protecting groups used for the photolithog. synthesis of oligonucleotide microarrays were quant. studied with the photolabile 2-(2-nitrophenyl)propyl protecting group in homogeneous solns. and on glass substrates by using laser flash photolysis, continuous illumination with HPLC anal., fluorescence dye labeling, and hybridization. In terms of efficiency and avoidance of chemical side reactions, 9H-thioxanthen-9-one was the most-suitable sensitizer. Both in solution and on a glass substrate, the photostationary kinetics were quant. modeled and the relevant kinetic parameters determined While the sensitization kinetics was diffusion-controlled both in solution and on the chip, the photostationary kinetics was essentially of zero order only on the chip because here the triplet-quenching effect of the released photoproduct 2-(2-nitrophenyl)propene was suppressed as a consequence of the inhomogeneous reaction that took place in a narrow diffusion zone above the surface from where the photoproducts could quickly escape. The kinetic simulation allowed quant. estimate of the d. of reactive groups on the surface. It was further demonstrated that, with 9H-thioxanthen-9-one as a sensitizer, high-d. oligonucleotide microarrays of high quality can be produced with one-third of the normal exposure time.

IT 189216-59-9
RL: ARG (Analytical reagent use); CPS (Chemical process); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(photolabile reactant; triplet-sensitized photodeprotection of oligonucleotides in solution and on microarray chips)

RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:733400 CAPLUS
DOCUMENT NUMBER: 139:208735
TITLE: Manufacture of DNA microarrays using photolabile protecting groups
INVENTOR(S): Steiner, Ulrich; Woell, Dominik; Walbert, Stefan
PATENT ASSIGNEE(S): Universitaet Konstanz, Germany
SOURCE: Patentschrift (Switz.), 14 pp.
CODEN: SWXXAS

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 693202	A	20030415	CH 2002-392	20020304

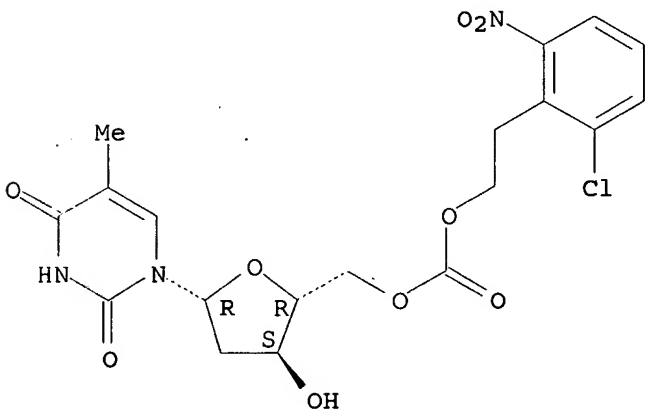
PRIORITY APPLN. INFO.: CH 2002-392 20020304

AB A method of manufacturing DNA microarrays by in situ synthesis using protecting groups labile to electromagnetic irradiation is described. The method allows precise irradiation of individual sites on a microarray with efficient cleavage of protective groups. Groups are chosen with a triplet state energy that is of the order of 20 kJ higher than the average thermal energy of the mol.

IT 179691-39-5 189216-59-9 244140-79-2
335201-64-4 335201-68-8 335201-72-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(as protecting group reagent in oligonucleotide synthesis; manufacture of DNA microarrays using photolabile protecting groups)

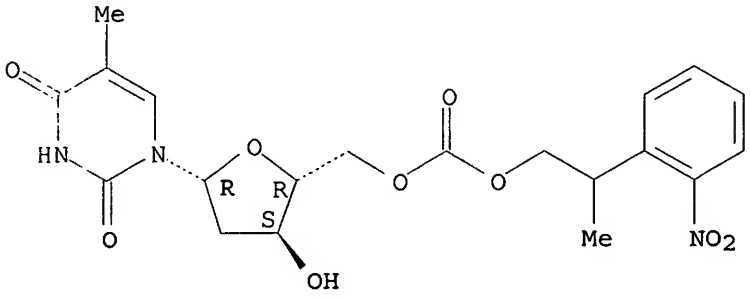
RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



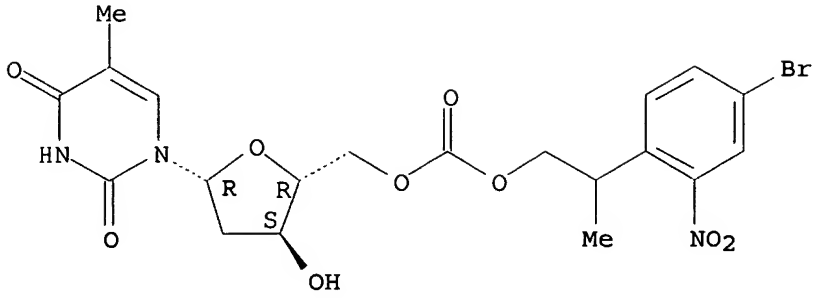
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



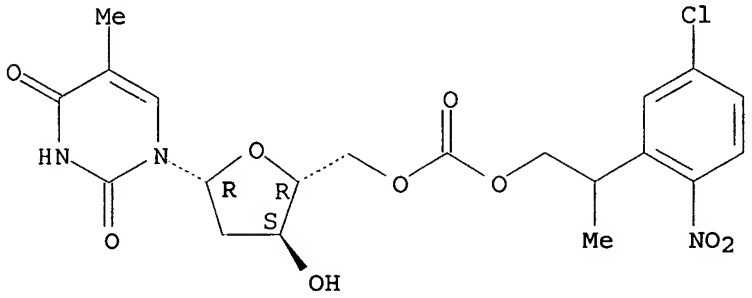
RN 244140-79-2 CAPLUS
CN Thymidine, 5'-[2-(4-bromo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



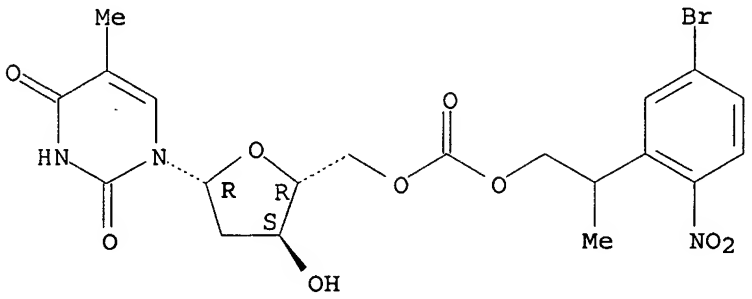
RN 335201-64-4 CAPLUS
CN Thymidine, 5'-[2-(5-chloro-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



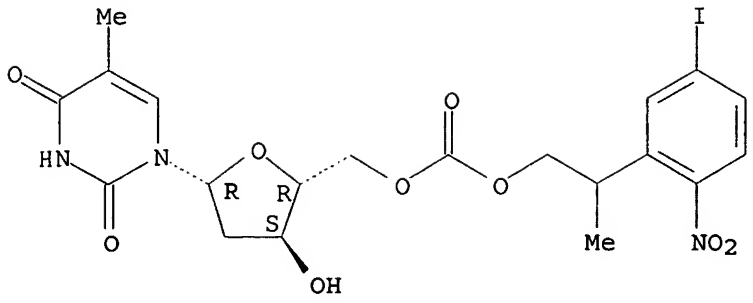
RN 335201-68-8 CAPLUS
CN Thymidine, 5'-[2-(5-bromo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 335201-72-4 CAPLUS
CN Thymidine, 5'-[2-(5-iodo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



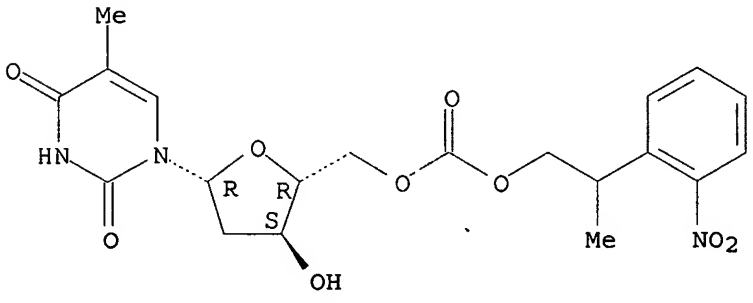
L4 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:714427 CAPLUS
DOCUMENT NUMBER: 140:50156
TITLE: More efficient photolithographic synthesis of DNA-chips by photosensitization
AUTHOR(S): Woell, D.; Walbert, S.; Stengele, K.-P.; Green, R.; Albert, T.; Pfleiderer, W.; Steiner, U. E.
CORPORATE SOURCE: University of Konstanz, Konstanz, 78457, Germany
SOURCE: Nucleosides, Nucleotides & Nucleic Acids (2003), 22(5-8), 1395-1398
CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Triplet sensitizers, such as acridone and thioxanthone, which efficiently absorb the light and transfer the electronic energy to the reactive protecting group, were evaluated. Thioxanthone was found to be the most suitable sensitizer for the o-nitrophenyl-2-propoxycarbonyl group. In homogeneous solns., the light sensitivity could be enhanced by as much as a factor of 10, while in terms of overall deprotection yield and avoidance of side reactions, the photosensitized reaction was efficient as the direct photoreaction. For high-d. DNA-chip synthesis, photosensitization significantly reduced the cycle time of the synthesis without significant reduction in the quality of the chip. The reaction order of the sensitized reaction on the chips was close to zero, which is particularly favorable since it shortens the necessary illumination time.

IT 189216-59-9
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(photocleavage of nitrophenylpropoxycarbonyl-protected thymidine in presence and absence of thioxanthone triplet sensitizer)

RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:58099 CAPLUS
DOCUMENT NUMBER: 138:90025
TITLE: Synthesis of oligodeoxyribonucleotides via condensation of nucleoside phosphoramidites
INVENTOR(S): Stengele, Klaus-Peter; Pfleiderer, Wolfgang
PATENT ASSIGNEE(S): Chemogenix G.m.b.H., Germany
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003006476	A1	20030123	WO 2002-EP7657	20020709
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10133779	A1	20030206	DE 2001-10133779	20010716
EP 1409505	A1	20040421	EP 2002-764662	20020709
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2004203036	A1	20041014	US 2004-754447	20040109
PRIORITY APPLN. INFO.:			DE 2001-10132536 A	20010709
			DE 2001-10133779 A	20010716
			WO 2002-EP7657 W	20020709

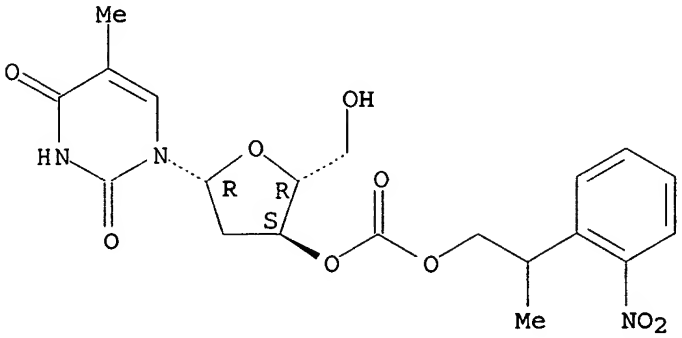
OTHER SOURCE(S): MARPAT 138:90025

AB The present invention relates to a process for the preparation of polynucleotides, whereby under suitable usual conditions the free 5'-hydroxy group, whose terminal 3'-hydroxy group contains a usual protecting group, is reacted with a hydroxy group, derivatized in a previous reaction step to a phosphite amido-ester, phosphotriester or phosphonic acid ester, whereby said hydroxy group is a 3'-hydroxy function of a free or solid phase bound polynucleotide, or a solid phase bound hydroxy function. Further the present invention relates to a kit for performing a process according to the invention, which contains at least one or more selected oligonucleotides, having a free 5'-hydroxy group and a protected 3'-hydroxy group. Further on, the present invention relates to new oligonucleotides and their use as building blocks for the synthesis of polynucleotides in the process according to the invention. Furthermore the present invention relates to the use of the process according to the invention or the use of the kits for the preparation of poly/oligonucleotides resp. polynucleotide libraries or nucleic acid chips. Thus, thymidyl-{3'-[OP-(2-cyanoethyl)]→5'}-3'-O-[2-(2-nitrophenyl)propyloxycarbonyl]thymidine was prepared in 82% yield by coupling of 5'-O-(4,4'-dimethoxytrityl)thymidine-3'-O-[(2-cyanoethyl)-N,N-diisopropylphosphoramidite] with 3'-O-[2-(2-nitrophenyl)propyloxycarbonyl] thymidine in presence of 4,5-dicyanoimidazole.

IT 298699-71-5P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of oligodeoxyribonucleotides via condensation of nucleoside phosphoramidites)

RN 298699-71-5 CAPLUS
CN Thymidine, 3'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



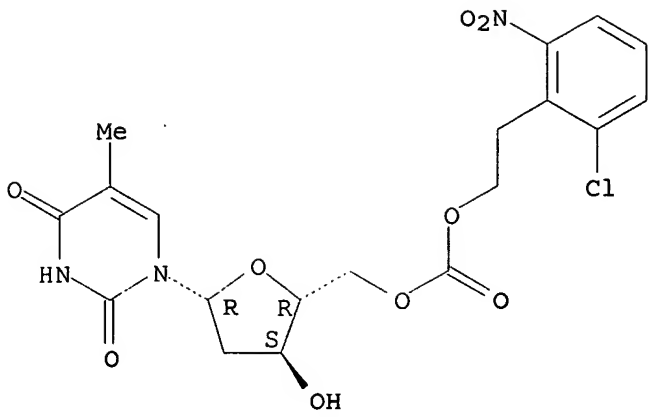
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:19930 CAPLUS
DOCUMENT NUMBER: 138:51930
TITLE: Photochemical crosslinking agents for immobilization of oligonucleotides in arrays
PATENT ASSIGNEE(S): Steiner, Ulrich, Germany; Universitaet Konstanz; Woell, Dominik
SOURCE: Ger. Gebrauchsmusterschrift, 27 pp.
CODEN: GGXXFR
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 20210018	U1	20030109	DE 2002-20210018	20020304
DE 10209203	A1	20030925	DE 2002-10209203	20020304
PRIORITY APPLN. INFO.:			DE 2002-10209203	IA 20020304

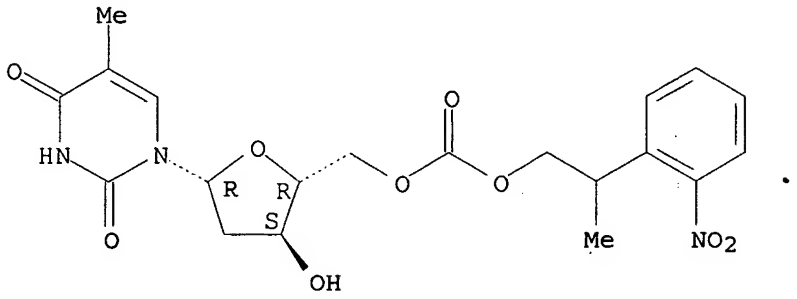
AB A reagent for immobilization of nucleic acids on biochips includes a mol. with a labile functional group and one with a triplet state that has an energy level similar to or higher than that of the triplet state of the labile functional group. The photolabile compound is an aromatic compound containing a double bond between carbon and a group VIA atom or nitrogen. These agents are an alternative to the prior art aromatic nitrosoketones.
IT 179691-39-5 189216-59-9 244140-79-2 335201-64-4 335201-68-8 335201-72-4
RL: DEV (Device component use); MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(in immobilization of oligonucleotides; photochem. crosslinking agents for immobilization of oligonucleotides in arrays)
RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



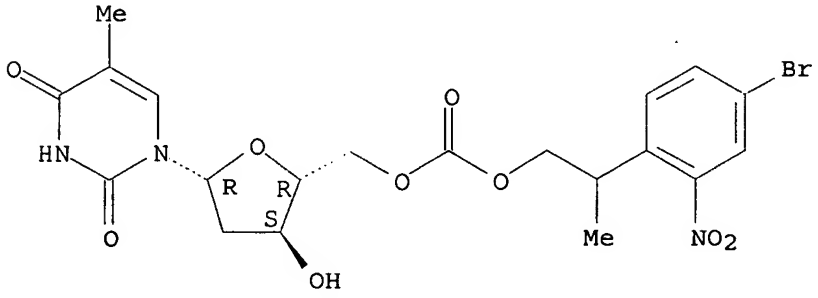
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



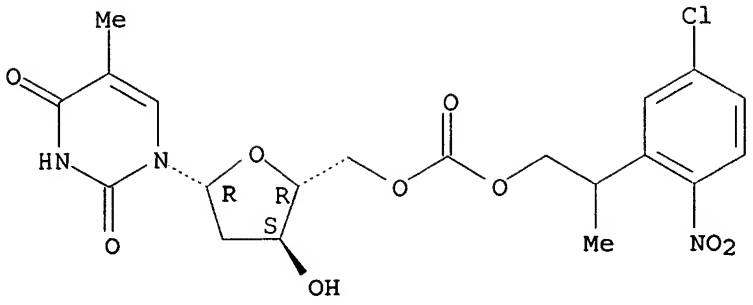
RN 244140-79-2 CAPLUS
CN Thymidine, 5'-[2-(4-bromo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



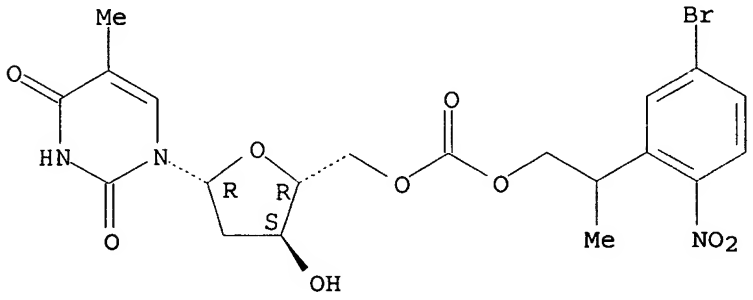
RN 335201-64-4 CAPLUS
CN Thymidine, 5'-[2-(5-chloro-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



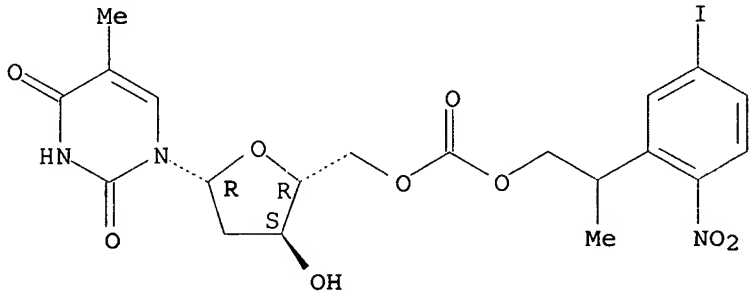
RN 335201-68-8 CAPLUS
CN Thymidine, 5'-[2-(5-bromo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 335201-72-4 CAPLUS
CN Thymidine, 5'-[2-(5-iodo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

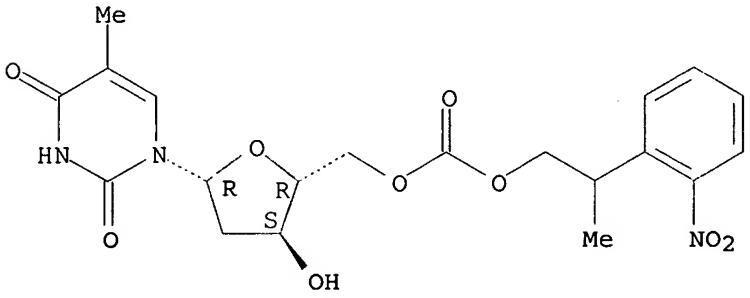
Absolute stereochemistry.



L4 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:882832 CAPLUS
DOCUMENT NUMBER: 138:181602
TITLE: Gene expression analysis using oligonucleotide arrays produced by Maskless photolithography
AUTHOR(S): Nuwaysir, Emile F.; Huang, Wei; Albert, Thomas J.; Singh, Jaz; Nuwaysir, Kate; Pitas, Alan; Richmond, Todd; Gorski, Tom; Berg, James P.; Ballin, Jeff; McCormick, Mark; Norton, Jason; Pollock, Tim; Sumwalt, Terry; Butcher, Lawrence; Porter, DeAnn; Molla, Michael; Hall, Christine; Blattner, Fred; Sussman, Michael R.; Wallace, Rodney L.; Cerrina, Franco;

Green, Roland D.
CORPORATE SOURCE: NimbleGen Systems, Inc., Madison, WI, 53711, USA
SOURCE: Genome Research (2002), 12(11), 1749-1755
CODEN: GEREFS; ISSN: 1088-9051
PUBLISHER: Cold Spring Harbor Laboratory Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Microarrays containing 195,000 in situ synthesized oligonucleotide features have been created using a benchtop, maskless photolithog. instrument. This instrument, the Maskless Array Synthesizer (MAS), uses a digital light processor (DLP) developed by Texas Instruments. The DLP creates the patterns of UV light used in the light-directed synthesis of oligonucleotides. This digital mask eliminates the need for expensive and time-consuming chromium masks. In this report, the authors describe expts. in which the authors tested this maskless technol. for DNA synthesis on glass surfaces. Parameters examined included deprotection rates, repetitive yields, and oligonucleotide length. Custom gene expression arrays were manufactured and hybridized to Drosophila melanogaster and mouse samples. Quant. PCR was used to validate the gene expression data from the mouse arrays.
IT 189216-59-9
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(gene expression anal. using oligonucleotide arrays produced by maskless photolithog.)
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:658632 CAPLUS
DOCUMENT NUMBER: 135:371950
TITLE: Synthesis of photolabile 5'-O-phosphoramidites for the photolithographic production of microarrays of inversely oriented oligonucleotides
AUTHOR(S): Beier, Markus; Stephan, Achim; Hoheisel, Jorg D.
CORPORATE SOURCE: Functional Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, D-69120, Germany
SOURCE: Helvetica Chimica Acta (2001), 84(7), 2089-2095
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:371950
AB The photolabile 3'-O-{[2-(2-nitrophenyl)propoxy]carbonyl}-protected 5'-phosphoramidites were synthesized for an alternative mode of light-directed production of oligonucleotide arrays. Because of the characteristics of these monomeric building blocks, photolithog. in situ

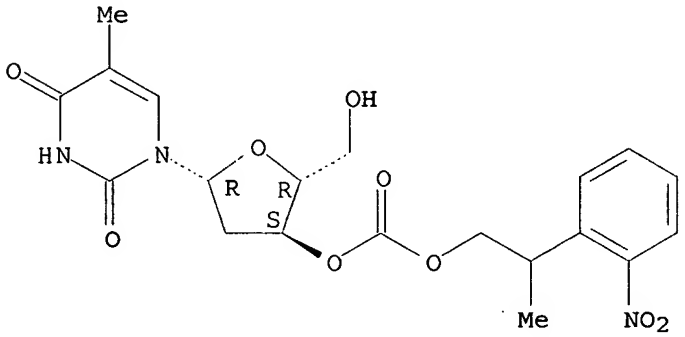
DNA synthesis occurred in 5' → 3' direction, in agreement with the orientation of enzymic synthesis. Synthesis yields were as good as those of conventional reactions. The resulting oligonucleotides are attached to the surface via their 5'-termini, while the 3'-hydroxy groups are available as substrates for enzymic reactions such as primer extension upon hybridization of a DNA template. The production of such oligonucleotide chips adds new procedural avenues to the growing number of applications of DNA microarrays.

IT 298699-71-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of photolabile phosphoramidites for the photolithog. production of microarrays of inversely oriented oligonucleotides)

RN 298699-71-5 CAPLUS

CN Thymidine, 3'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:561245 CAPLUS

DOCUMENT NUMBER: 135:289010

TITLE: Photolabile protecting groups for nucleosides: mechanistic studies of the 2-(2-nitrophenyl)ethyl group

AUTHOR(S): Walbert, Stefan; Pfleiderer, Wolfgang; Steiner, Ulrich E.

CORPORATE SOURCE: Fachbereich Chemie der Universitat Konstanz, Konstanz, D-78457, Germany

SOURCE: Helvetica Chimica Acta (2001), 84(6), 1601-1611
CODEN: HCACAV; ISSN: 0018-019X

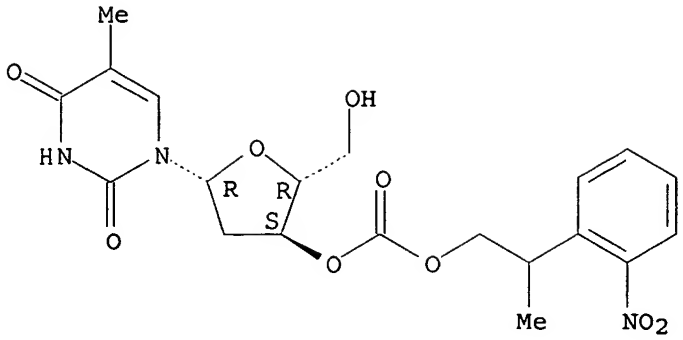
PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:289010

AB The photochem. of several 2-(2-nitrophenyl)ethyl-caged compds. including caged thymidine nucleosides was studied by nanosecond laser flash photolysis and stationary illumination expts. with quant. HPLC anal. for quantum yields and product distribution. Effects of solvent basicity and acidity were investigated by varying the H2O content and HCl concentration, resp., in MeCN/H2O mixts. For all compds. investigated, intramol. H abstraction by the nitro group from the exocyclic α-position with respect to the aryl moiety was found to be the primary process. The protolytic dissociation equilibrium of the resulting aci-nitro compound was kinetically characterized in the 0.1 - 10 μs time region. In general, two reaction channels compete for the aci-nitro compound and its anion: β-elimination of the caged compound occurs from the anion, while from the undissociated aci-nitro compound, a nitrosobenzene derivative is formed with



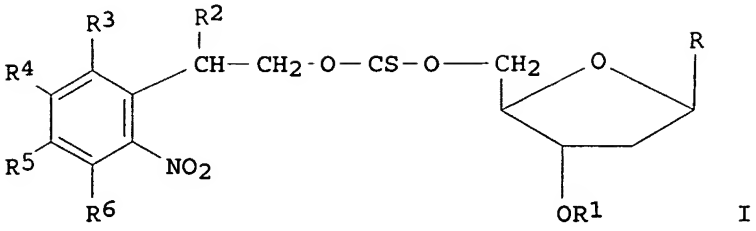
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:137226 CAPLUS
DOCUMENT NUMBER: 134:178767
TITLE: Preparation of nucleoside derivatives capable of undergoing UV-photolysis for oligonucleotide synthesis
INVENTOR(S): Berlin, Kurt
PATENT ASSIGNEE(S): Epigenomics A.-G., Germany
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012642	A2	20010222	WO 2000-DE2755	20000810
WO 2001012642	A3	20010607		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19938092	A1	20010222	DE 1999-19938092	19990812
EP 1325016	A2	20030709	EP 2000-962214	20000810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: DE 1999-19938092 A 19990812
WO 2000-DE2755 W 20000810

OTHER SOURCE(S): MARPAT 134:178767
GI



I

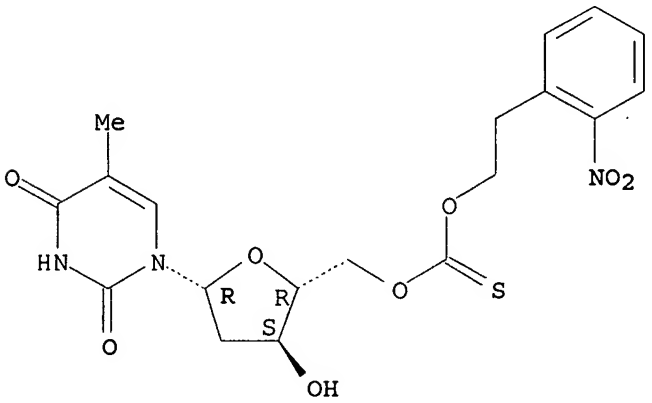
AB Disclosed are novel nucleoside derivs. of general formula [(I); R = nucleobase or nucleobase with at least one protective group; R1 = H, P(N(C(CH3)2)2)O(CH2)2CN; R2 = H, alkyl; R3 = H, NO2, alkyl; R4, R5 = independently, H, alkyl, alkoxy; or together = -OCH2O-; R6 = H, alkyl], which can easily be split by means of UV light and can be used for synthesis of oligonucleotides. Thus, 2,6-dinitrotoluene was treated with DMSO and KOC(CH3)3 in HOC(CH3)3 to give 2,6(NO2)2C6H3CH2CH2OH, which was condensed with Cl2C(S) to give the thiocarbonyl chloride, which was reacted with thymidine to give I (R = thymine; R1, R2, R4, R5, R6 = H; R3 = NO2) in 30% yield. An example of photolysis of I (R = thymine; R1 - R6 = H) was given.

IT 325975-03-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of nucleoside derivs. capable of undergoing UV-photolysis for oligonucleotide synthesis)

RN 325975-03-9 CAPLUS

CN Thymidine, 5'-[O-[2-(2-nitrophenyl)ethyl] carbonothioate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

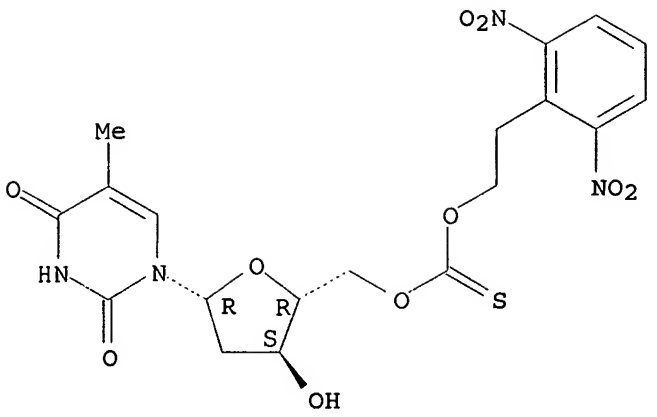


IT 325975-00-6P 325975-02-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of nucleoside derivs. capable of undergoing UV-photolysis for oligonucleotide synthesis)

RN 325975-00-6 CAPLUS

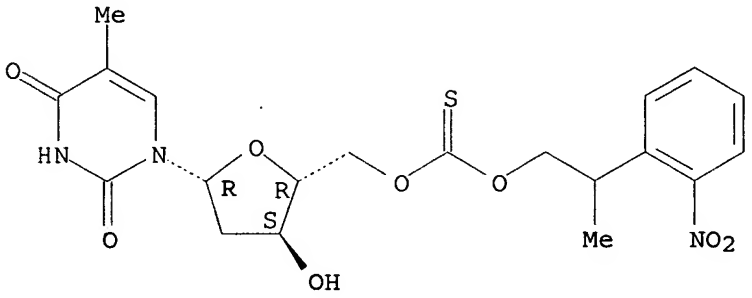
CN Thymidine, 5'-[O-[2-(2,6-dinitrophenyl)ethyl] carbonothioate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 325975-02-8 CAPLUS
CN Thymidine, 5'-[O-[2-(2-nitrophenyl)propyl] carbonothioate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:742107 CAPLUS
DOCUMENT NUMBER: 133:282022
TITLE: Preparation of nucleoside derivatives with 3'O-photo-unstable protective groups for use in nucleic acid chip production
INVENTOR(S): Beier, Markus; Hoheisel, Jorg
PATENT ASSIGNEE(S): Deutsches Krebsforschungszentrum Stiftung des Offentlichen Rechts, Germany
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061594	A2	20001019	WO 2000-DE1148	20000407
WO 2000061594	A3	20020404		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,

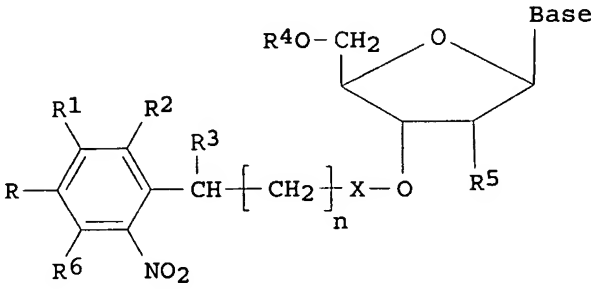
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

DE 19915867	A1	20001019	DE 1999-19915867	19990408
DE 10003631	A1	20010802	DE 2000-10003631	20000128
AU 2000050598	A5	20001114	AU 2000-50598	20000407
EP 1212338	A2	20020612	EP 2000-934905	20000407
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 6756492	B1	20040629	US 2002-958610	20020221

PRIORITY APPLN. INFO.:
DE 1999-19915867 A 19990408
DE 2000-10003631 A 20000128
WO 2000-DE1148 W 20000407

OTHER SOURCE(S): CASREACT 133:282022; MARPAT 133:282022

GI



I

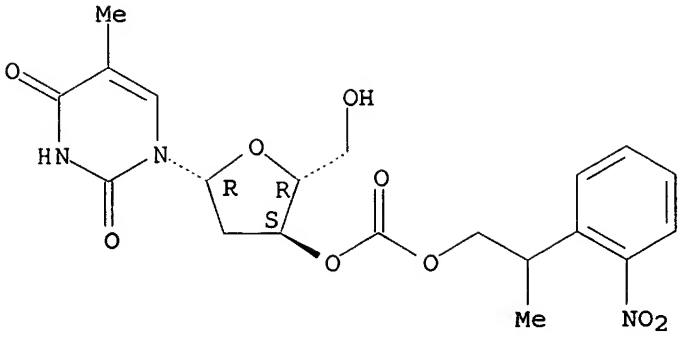
AB The present invention relates to nucleoside derivs. [(I);R, R1, R2, R3, R6 = (independently) H, NO2, CN, OMe, halogen, alkyl, alkoxy, alkoxyalkyl, (un)substituted aryl, acyl; R4 = dimethoxytrityl, other protecting group, functional group for preparation of oligonucleotides; R5 = H, OH, X2R7; X2 = O, S; R7 = alkyl, alkoxyalkyl, (un)substituted aryl, acyl; n = 0, 1; X = SO2, OC(O), OC(S); Base = (un)protected natural or unnatural purine or pyrimidine base or 5-amino-4-imidazolaminocarbonyl-3-yl] with photo-labile protecting groups, useful for preparing nucleic acid chips with free 3'-OH groups for use with PCR or ligase reactions. Thus, protected deoxythymidine nucleoside was reacted with activated protecting group (preparation given) to give I [R, R1, R2 R5, R6 = H; R3 = CH3; R4 = (MeO-4-C6H4)2(Ph)C-; Base = N4-C(O)CH2O-4-C6H4-C(CH3)3-cytosine], which was 5'-deprotected and reacted with 2-cyanoethyl-N,N,N',N'-tetraisopropylphosphordiamidate to give I [R, R1, R2, R3, R5, R6 as given; R4 = P(N(CH(CH3)2)2)(OCH2CH2CN)(II)], which could then be 3'-deprotected (no data). Examples were given (no data) of the use of II-type compds. for the preparation of DNA chains on solid support (DNA chips) for use in, e.g., polymerase chain reactions to generate DNA mols. for use as fluorescent probes capable of hybridizing with sample DNA chains.

IT 298699-71-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nucleoside derivs. with 3'O-photo-unstable protecting groups for use in nucleic acid chip production)

RN 298699-71-5 CAPLUS

CN Thymidine, 3'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



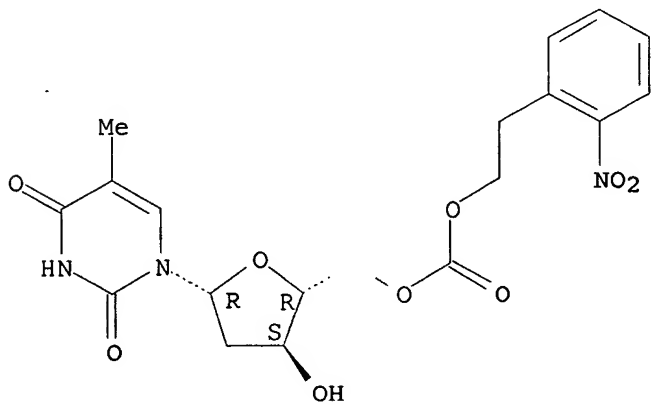
L4 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:514893 CAPLUS
DOCUMENT NUMBER: 131:243502
TITLE: New photolabile protecting groups of the 2-(2-nitrophenyl)ethoxycarbonyl- and the 2-(2-nitrophenyl)ethylsulfonyl-type for the oligonucleotide synthesis
AUTHOR(S): Buhler, S.; Giegrich, H.; Pfleiderer, W.
CORPORATE SOURCE: Fakultat fur Chemie, Universitat Konstanz, Konstanz, D-78457, Germany
SOURCE: Nucleosides & Nucleotides (1999), 18(6 & 7), 1281-1283
CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A symposium on new photolabile blocking groups that have been synthesized and introduced into the 5'-OH position of thymidine. The 5'-O-protected thymidines were irradiated at 365 nm under identical conditions and the half-lives and thymidine yields were determined to investigate the influence of different substituents in the two corresponding series.

IT 179691-36-2P 179691-39-5P 189216-59-9P
244140-78-1P 244140-79-2P 244140-80-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(new photolabile protecting groups of the (nitrophenyl)ethoxycarbonyl and the (nitrophenyl)ethylsulfonyl-type for oligonucleotide synthesis)

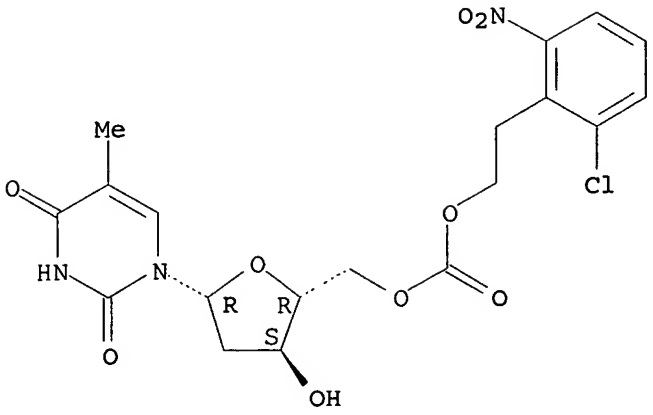
RN 179691-36-2 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



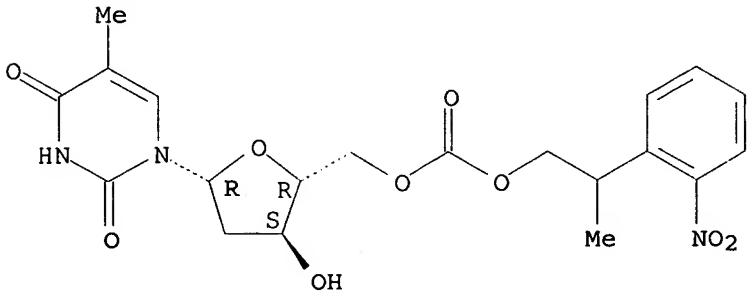
RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



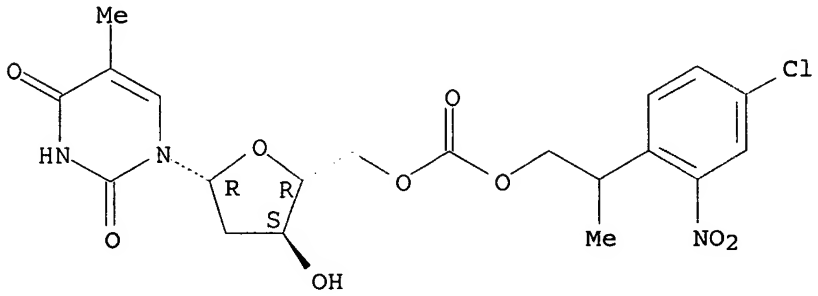
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



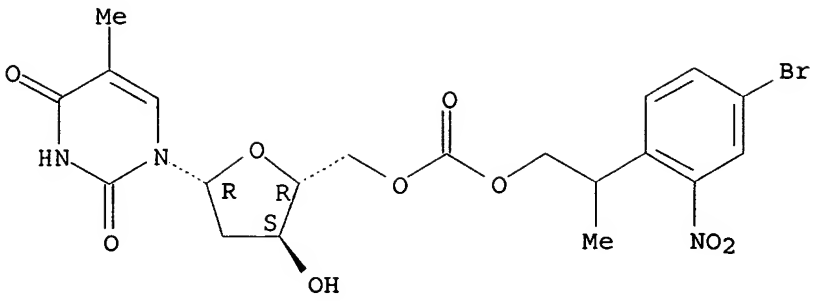
RN 244140-78-1 CAPLUS
CN Thymidine, 5'-[2-(4-chloro-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



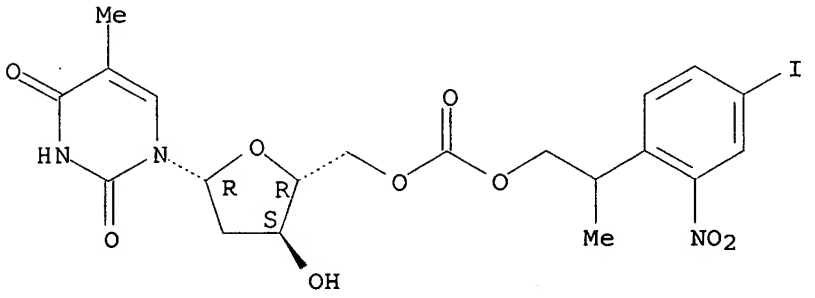
RN 244140-79-2 CAPLUS
CN Thymidine, 5'-[2-(4-bromo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 244140-80-5 CAPLUS
CN Thymidine, 5'-[2-(4-iodo-2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



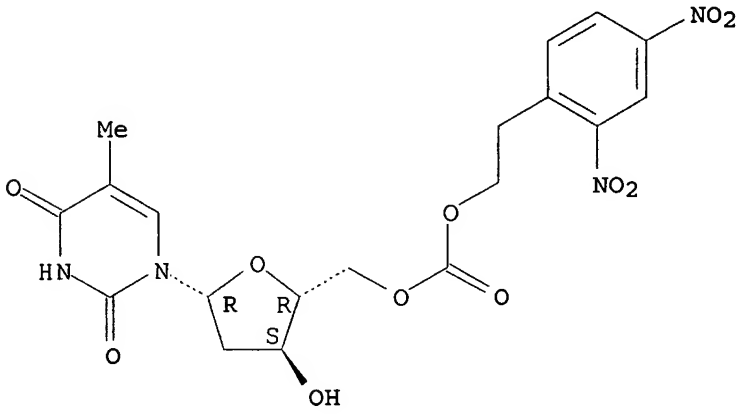
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:667151 CAPLUS
DOCUMENT NUMBER: 129:343670
TITLE: New photolabile protecting groups in nucleoside and nucleotide chemistry - synthesis, cleavage mechanisms and applications
AUTHOR(S): Giegrich, H.; Eisele-Buhler, S.; Hermann, Chr.; Kvasyuk, E.; Charubala, R.; Pfleiderer, W.
CORPORATE SOURCE: Fakultat fur Chemie, Universitat Konstanz, Konstanz, D-78434, Germany
SOURCE: Nucleosides & Nucleotides (1998), 17(9-11), 1987-1996
CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New photolabile protecting groups have been found in the 2-(2-nitrophenyl)ethoxycarbonyl and the 2-(2-nitrophenyl)ethylsulfonyl group, resp. The influence of substituents at the Ph ring as well as the side-chain has been investigated regarding the photolysis rates on irradiation at 365 mn. β-Branching in the side-chain leads to highly increased rates of photo-deprotection. A new type of photo-cleavage mechanism consisting of a photoinduced β-elimination process is proposed.
IT 111244-91-8 179691-36-2 179691-37-3
179691-38-4 179691-39-5 179691-40-8
179691-41-9 179691-42-0 179691-43-1
179691-44-2 189216-59-9 215600-48-9
215600-49-0 215600-50-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. elimination and bond cleavage of nucleosides and

nucleotides using nitrophenylethoxycarbonyl and nitrophenylethylsulfonyl as protecting groups)

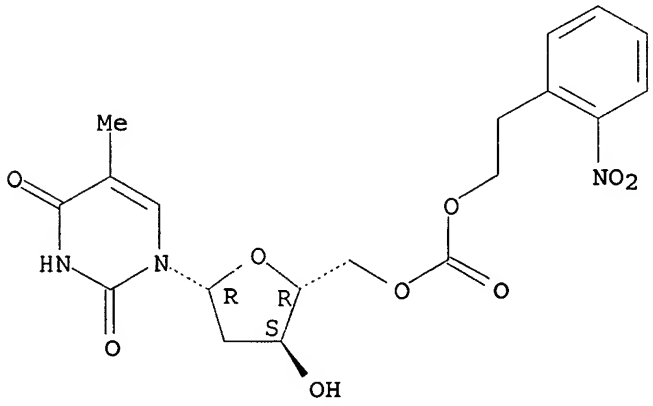
RN 111244-91-8 CAPLUS
CN Thymidine, 5'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



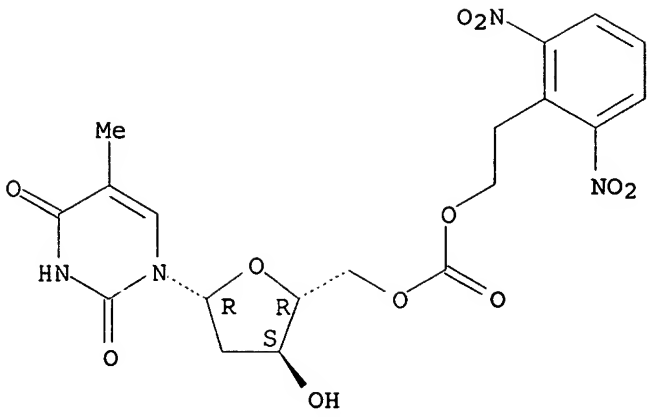
RN 179691-36-2 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



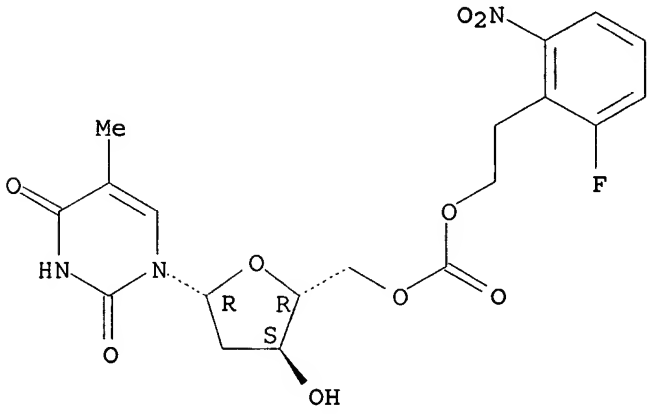
RN 179691-37-3 CAPLUS
CN Thymidine, 5'-[2-(2,6-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



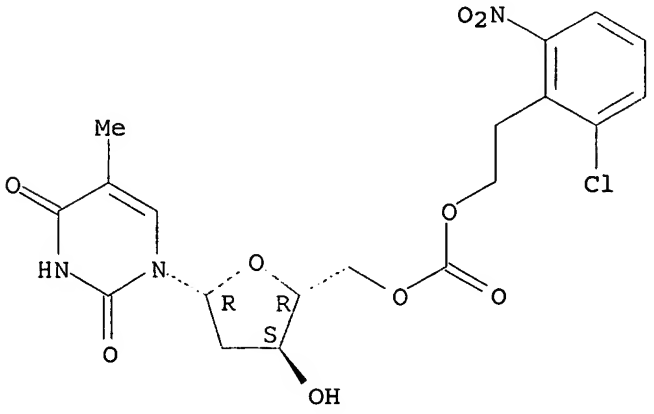
RN 179691-38-4 CAPLUS
CN Thymidine, 5'-[2-(2-fluoro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

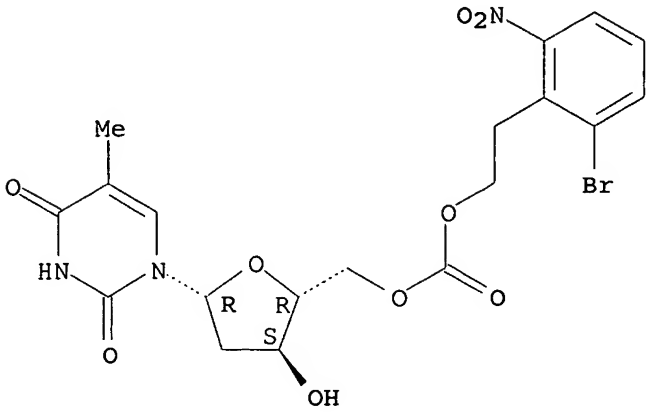
Absolute stereochemistry.



RN 179691-40-8 CAPLUS

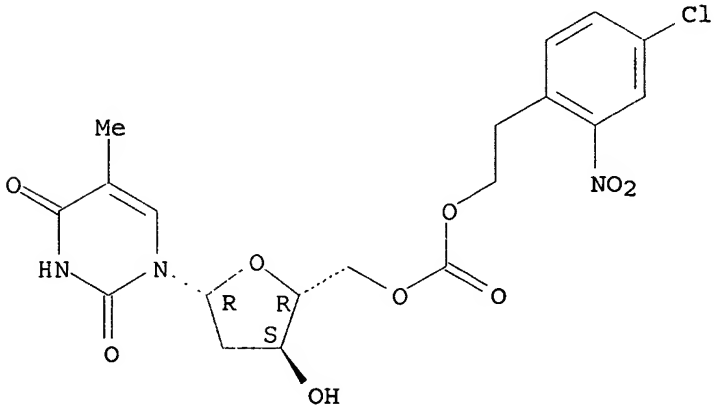
CN Thymidine, 5'-[2-(2-bromo-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



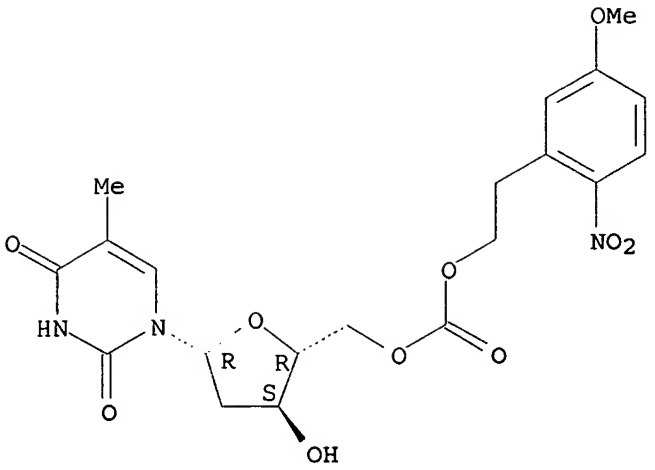
RN 179691-41-9 CAPLUS
CN Thymidine, 5'-[2-(4-chloro-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



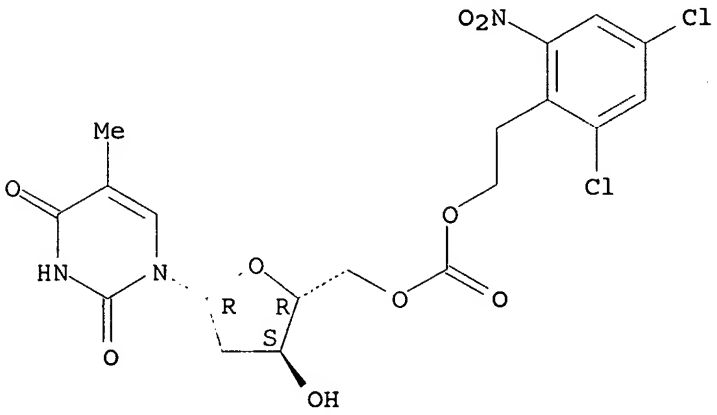
RN 179691-42-0 CAPLUS
CN Thymidine, 5'-[2-(5-methoxy-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



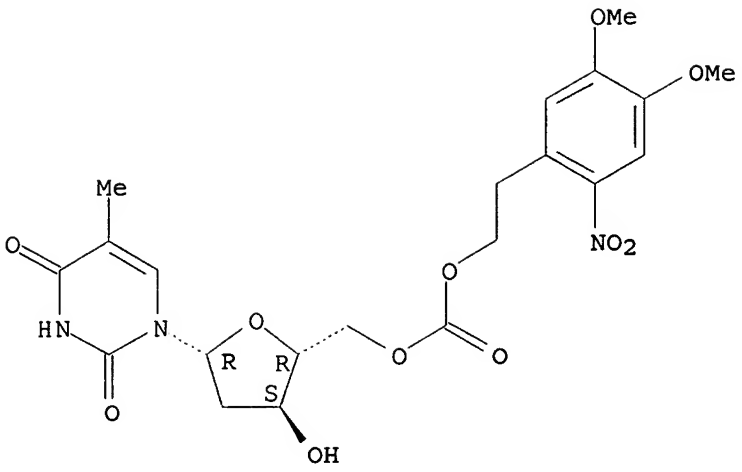
RN 179691-43-1 CAPLUS
CN Thymidine, 5'-[2-(2,4-dichloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



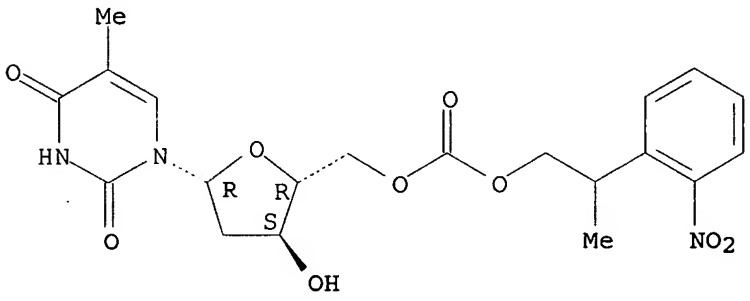
RN 179691-44-2 CAPLUS
CN Thymidine, 5'-[2-(4,5-dimethoxy-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



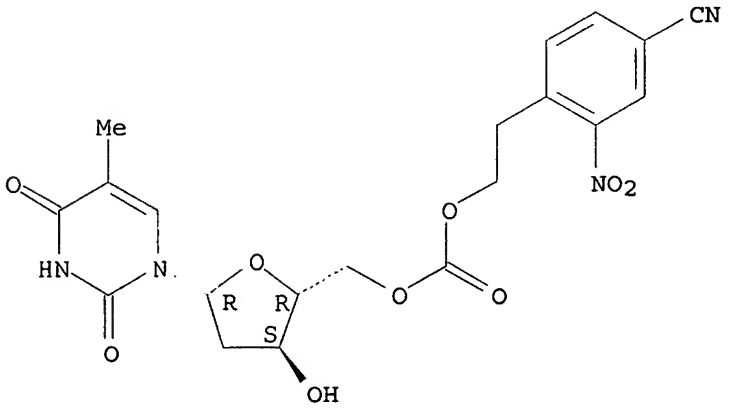
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



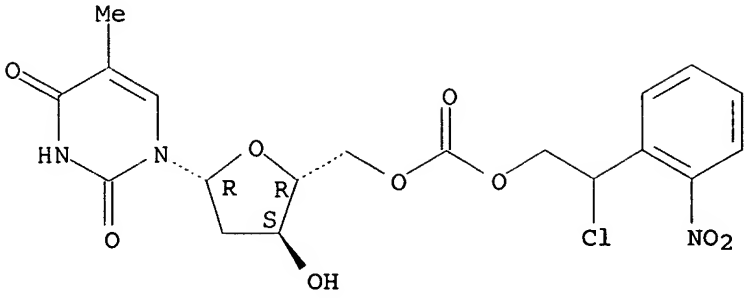
RN 215600-48-9 CAPLUS
CN Thymidine, 5'-[2-(4-cyano-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



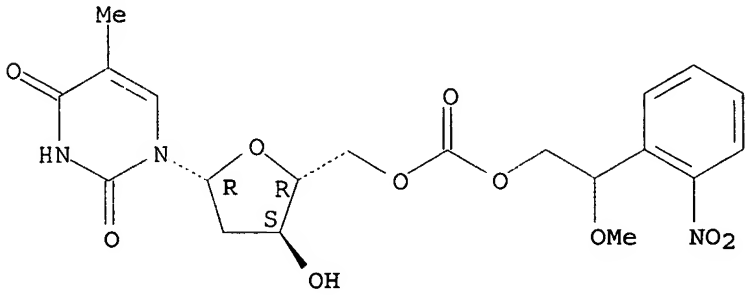
RN 215600-49-0 CAPLUS
CN Thymidine, 5'-[2-chloro-2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 215600-50-3 CAPLUS
CN Thymidine, 5'-[2-methoxy-2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

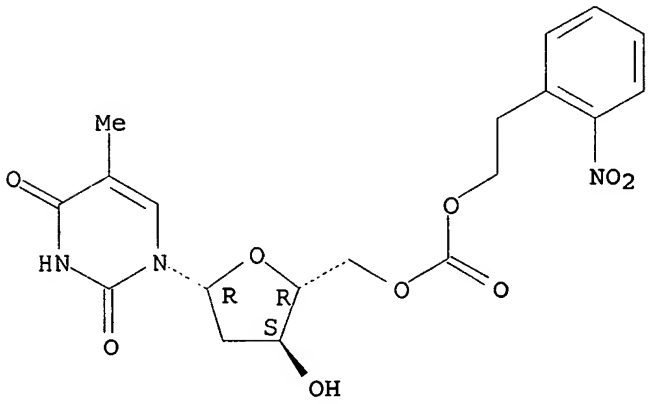
L4 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:216197 CAPLUS
DOCUMENT NUMBER: 126:305727
TITLE: Photolabile protecting groups for nucleosides: synthesis and photo-deprotection rates
AUTHOR(S): Hasan, Ahmad; Stengele, Klaus-Peter; Giegrich, Heiner; Cornwell, Paul; Isham, Kenneth R.; Sachleben, Richard A.; Pfleiderer, Wolfgang; Foote, Robert S.
CORPORATE SOURCE: Biology Div., Oak Ridge National Lab., Oak Ridge, TN, 37831-8080, USA
SOURCE: Tetrahedron (1997), 53(12), 4247-4264
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB O-Nitrobenzyloxycarbonyl and a number of related groups have been tested for the photolabile protection of nucleoside 5'-hydroxyls. The rates of photo-deprotection vary by approx. 17-fold in a series of 5'-O-protected thymidine derivs. irradiated at 365 nm under identical conditions. The homologous 2-(o-nitrophenyl)ethoxycarbonyl group and its derivs. were found to be removed approx. 2-fold faster than the corresponding o-nitrobenzyloxycarbonyl group, possibly due to an increased rate of α-hydrogen abstraction by the photo-excited nitro group. Photolysis rates were affected by substitutions on both the Ph ring and α-carbon, with the strongest rate enhancements caused by the presence of a Me or second o-nitrophenyl group in the α-position . Among the ring-substituted derivs. studied, o-nitro and o-iodo had the strongest enhancement effects on photodeprotection, while an o-fluoro

group reduced the rate of photodeprotection. In general, substitution at other positions on the Ph ring had less effect on photolysis rates.

IT 179691-36-2P 179691-37-3P 179691-38-4P
179691-39-5P 179691-40-8P 179691-42-0P
179691-43-1P 189216-58-8P 189216-59-9P
189216-64-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nitrobenzyloxycarbonyl photolabile protecting group for nucleosides preparation and photo-deprotection rates)

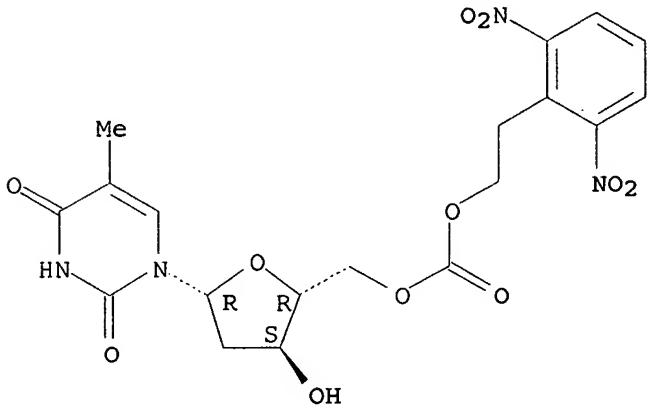
RN 179691-36-2 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



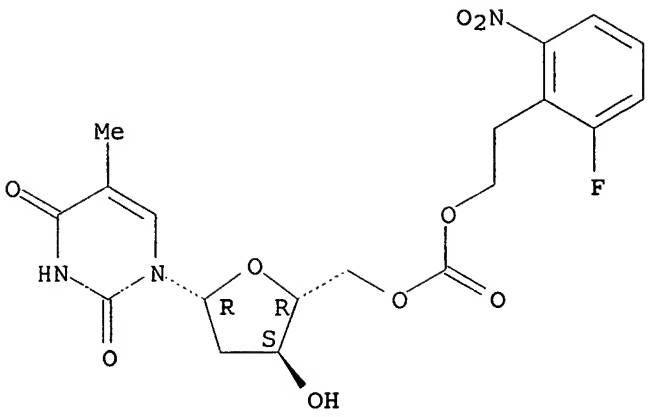
RN 179691-37-3 CAPLUS
CN Thymidine, 5'-[2-(2,6-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



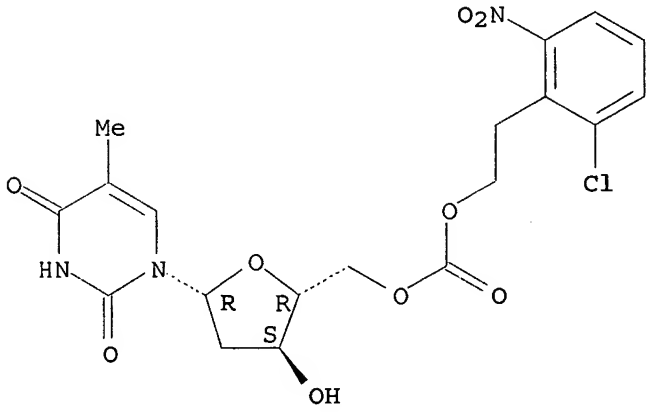
RN 179691-38-4 CAPLUS
CN Thymidine, 5'-[2-(2-fluoro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



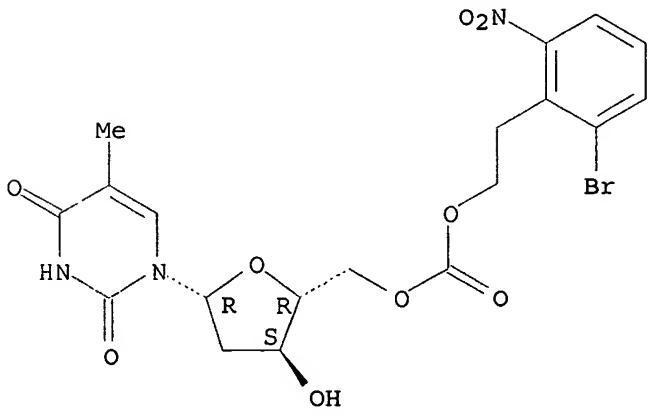
RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 179691-40-8 CAPLUS
CN Thymidine, 5'-[2-(2-bromo-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

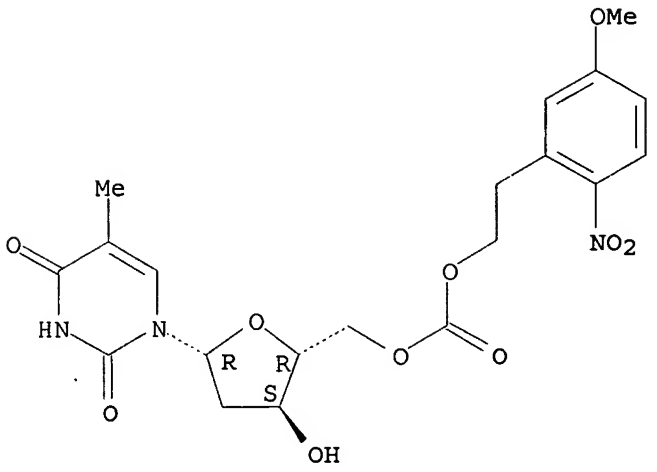
Absolute stereochemistry.



RN 179691-42-0 CAPLUS

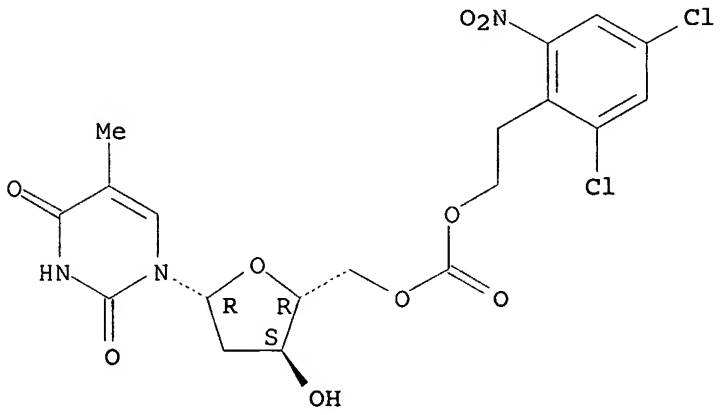
CN Thymidine, 5'-[2-(5-methoxy-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



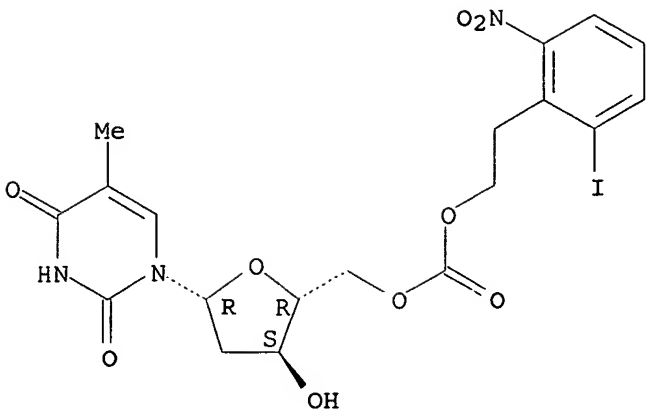
RN 179691-43-1 CAPLUS
CN Thymidine, 5'-[2-(2,4-dichloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



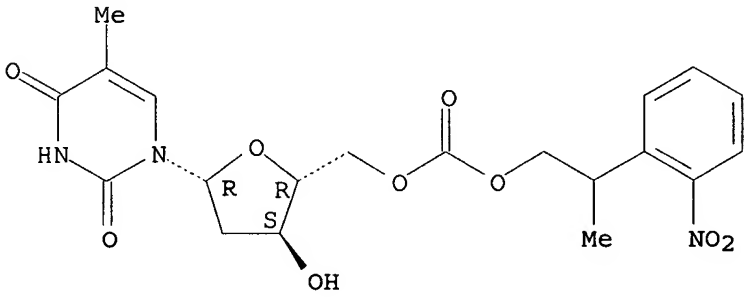
RN 189216-58-8 CAPLUS
CN Thymidine, 5'-[2-(2-iodo-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



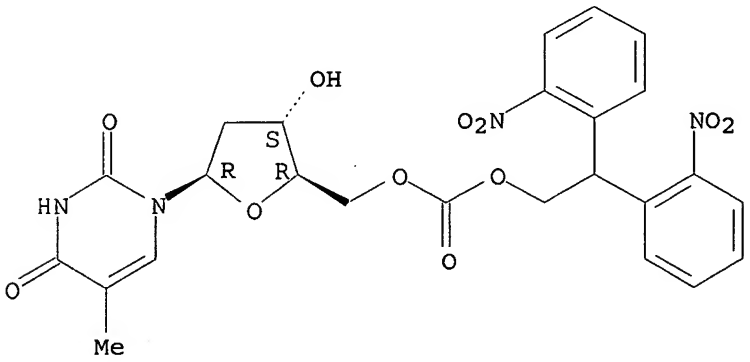
RN 189216-59-9 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 189216-64-6 CAPLUS
CN Thymidine, 5'-[2,2-bis(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:483513 CAPLUS
DOCUMENT NUMBER: 125:143236
TITLE: Preparation of nucleoside derivatives with photolabile protecting groups.

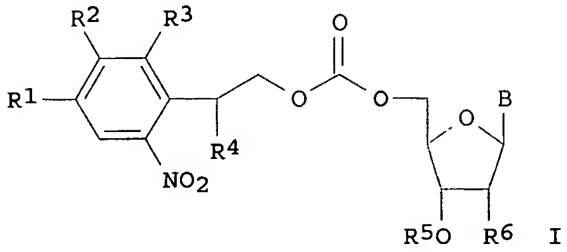
INVENTOR(S): Pfleiderer, Wolfgang; Giegrich, Heiner
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 23 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4444996	A1	19960620	DE 1994-4444996	19941216
CA 2207912	AA	19960620	CA 1995-2207912	19951215
WO 9618634	A2	19960620	WO 1995-EP4976	19951215
WO 9618634	A3	19960822		
W: AU, BR, CA, CZ, FI, HU, JP, KR, MX, NO, PL, SK, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9643865	A1	19960703	AU 1996-43865	19951215
AU 692658	B2	19980611		
EP 797580	A2	19971001	EP 1995-942675	19951215
EP 797580	B1	20020410		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE				
HU 77176	A2	19980302	HU 1997-1821	19951215
HU 215543	B	19990128		
BR 9510498	A	19991130	BR 1995-10498	19951215
IL 116407	A1	20010913	IL 1995-116407	19951215
AT 215957	E	20020415	AT 1995-942675	19951215
ES 2174976	T3	20021116	ES 1995-942675	19951215
CZ 292296	B6	20030813	CZ 1997-1836	19951215
US 5763599	A	19980609	US 1996-693217	19960809
NO 9702754	A	19970811	NO 1997-2754	19970613
NO 307382	B1	20000327		
FI 9703643	A	19970909	FI 1997-3643	19970909

PRIORITY APPLN. INFO.: DE 1994-4444996 A 19941216
WO 1995-EP4976 W 19951215

OTHER SOURCE(S): MARPAT 125:143236
GI



I

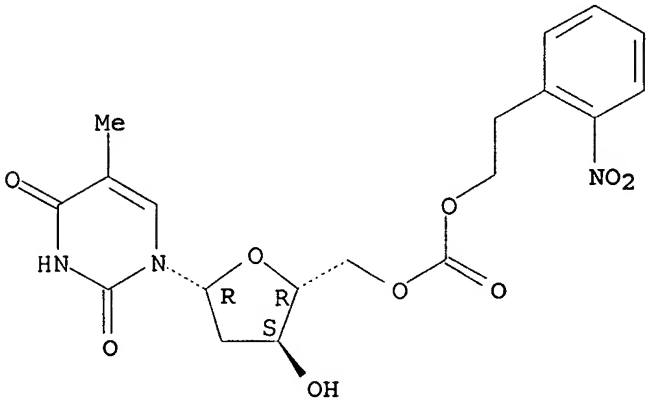
AB Title compds. [I; R1 = H, NO2, CN, OMe; R2 = H, OMe; R3 = H, F, Cl, Br, NO2; R5 = H, NCCH2CH2OPN(R7)2, p-O2NC6H4CH2CH2OPN(R7)2; R7 = alkyl; R6 = H, OH, alkoxy, alkenyloxy, or acetal, silyl ether protecting groups; B = (protected) adenine, cytosine, guanine, thymine, uracil residues], were prepared Thus, thymidine in pyridine was treated with 2-(2-nitrophenyl)ethoxycarbonyl chloride (preparation given) to give 5'-O-[2-(2-nitrophenyl)ethoxycarbonyl]thymidine. the latter showed t1/2 = 2.6 min. for photodeprotection using a high pressure Hg lamp.

IT 179691-36-2P 179691-37-3P 179691-38-4P
179691-39-5P 179691-40-8P 179691-41-9P
179691-42-0P 179691-43-1P 179691-44-2P
179691-45-3P 179691-46-4P 179691-47-5P
179691-53-3P 179691-54-4P 179691-55-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and photodeprotection; preparation of nucleoside derivs. with photolabile protecting groups)

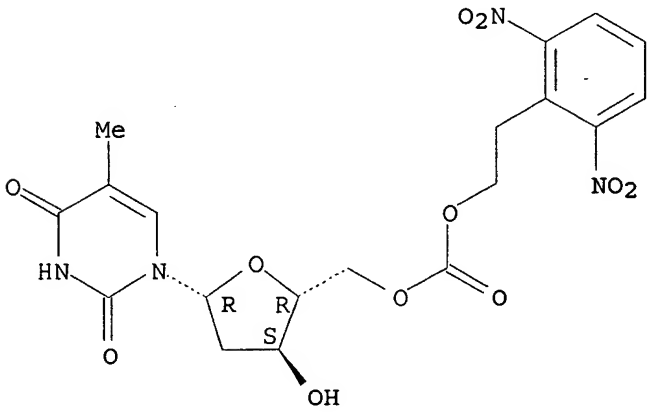
RN 179691-36-2 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



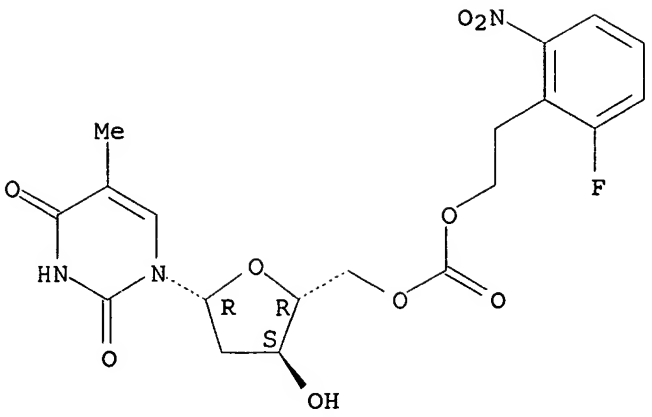
RN 179691-37-3 CAPLUS
CN Thymidine, 5'-[2-(2,6-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



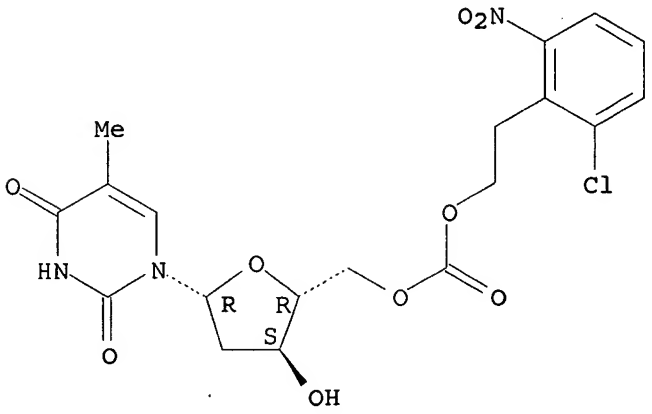
RN 179691-38-4 CAPLUS
CN Thymidine, 5'-[2-(2-fluoro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



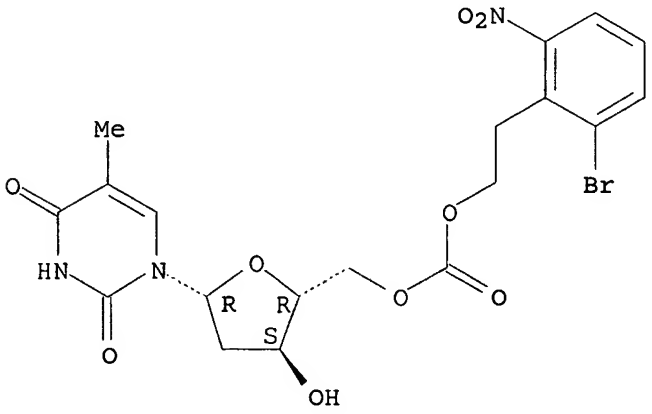
RN 179691-39-5 CAPLUS
CN Thymidine, 5'-[2-(2-chloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 179691-40-8 CAPLUS
CN Thymidine, 5'-[2-(2-bromo-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

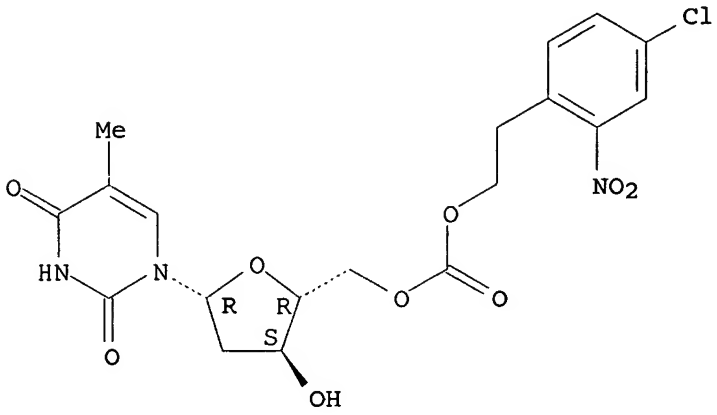
Absolute stereochemistry.



RN 179691-41-9 CAPLUS

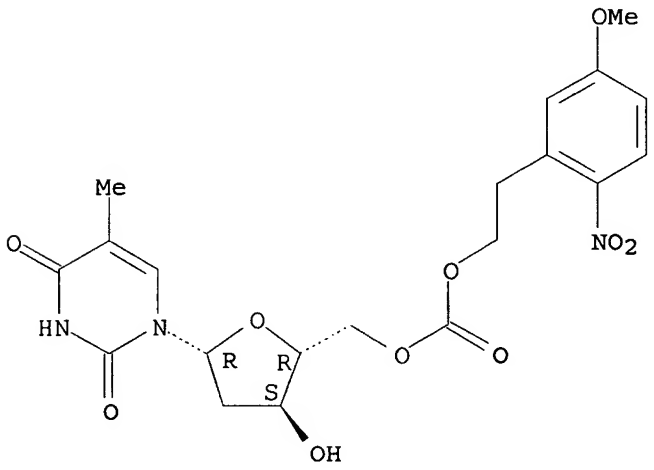
CN Thymidine, 5'-[2-(4-chloro-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



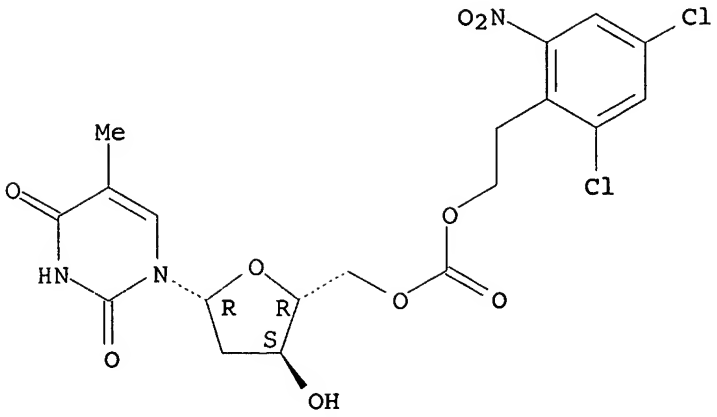
RN 179691-42-0 CAPLUS
CN Thymidine, 5'-[2-(5-methoxy-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



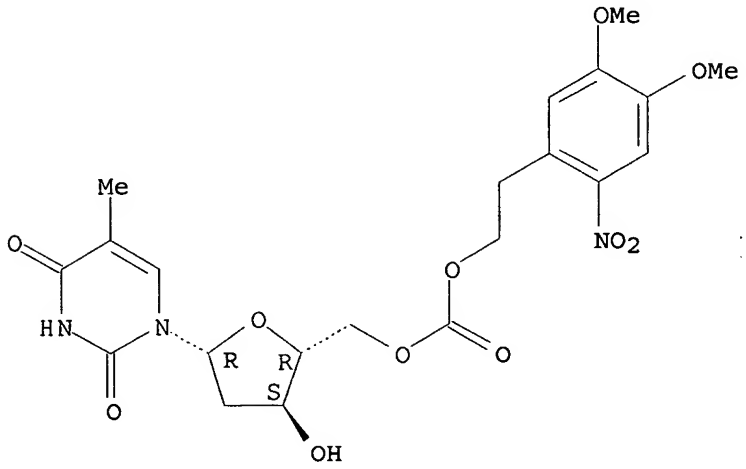
RN 179691-43-1 CAPLUS
CN Thymidine, 5'-[2-(2,4-dichloro-6-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



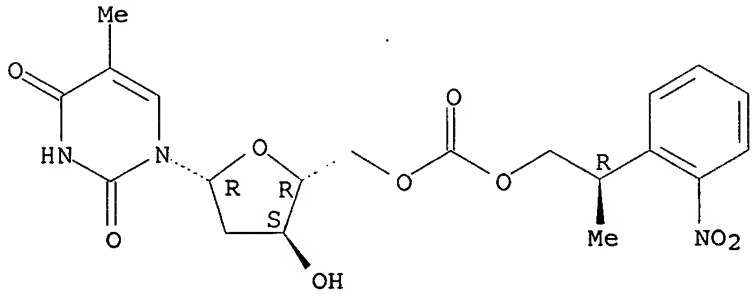
RN 179691-44-2 CAPLUS
CN Thymidine, 5'-[2-(4,5-dimethoxy-2-nitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



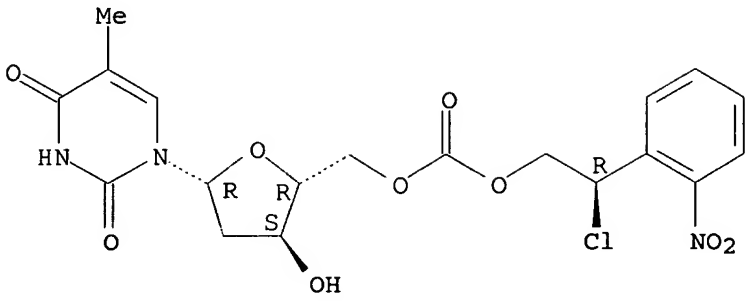
RN 179691-45-3 CAPLUS
CN Thymidine, 5'-[2-(2-nitrophenyl)propyl carbonate], (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



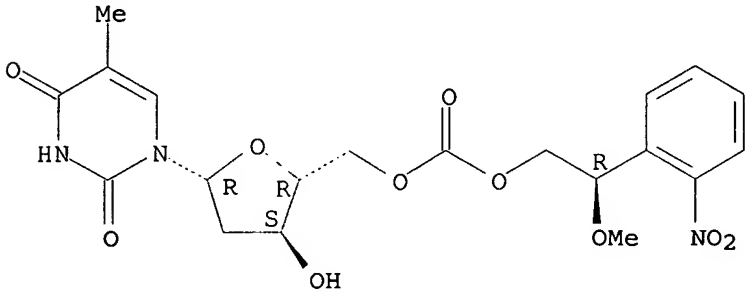
RN 179691-46-4 CAPLUS
CN Thymidine, 5'-[2-chloro-2-(2-nitrophenyl)ethyl carbonate], (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



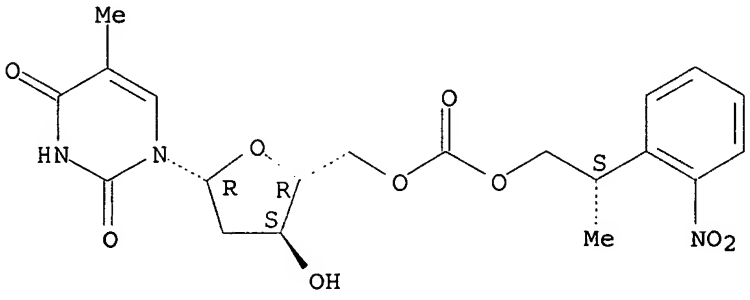
RN 179691-47-5 CAPLUS
CN Thymidine, 5'-[2-methoxy-2-(2-nitrophenyl)ethyl carbonate], (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



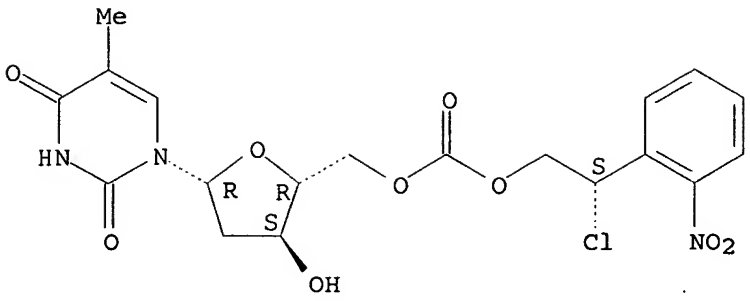
RN 179691-53-3 CAPLUS
CN Thymidine, 5-[2-(2-nitrophenyl)propyl carbonate], (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



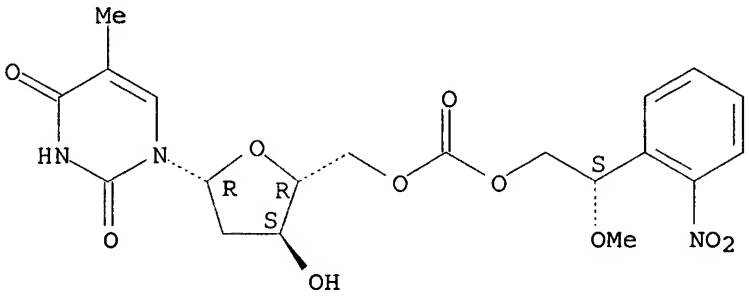
RN 179691-54-4 CAPLUS
CN Thymidine, 5'-[2-chloro-2-(2-nitrophenyl)ethyl carbonate], (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



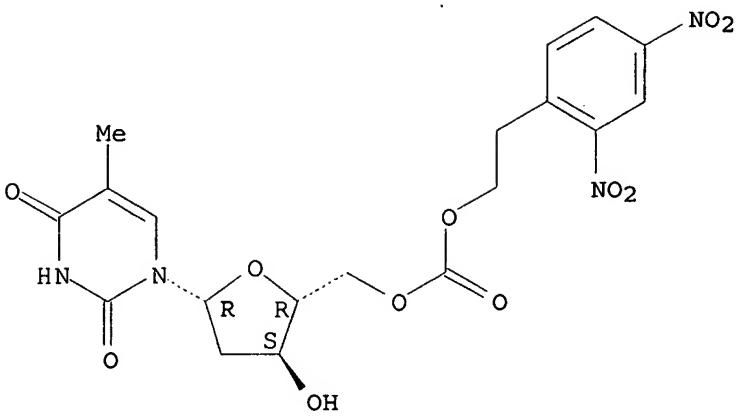
RN 179691-55-5 CAPLUS
CN Thymidine, 5'-[2-methoxy-2-(2-nitrophenyl)ethyl carbonate], (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



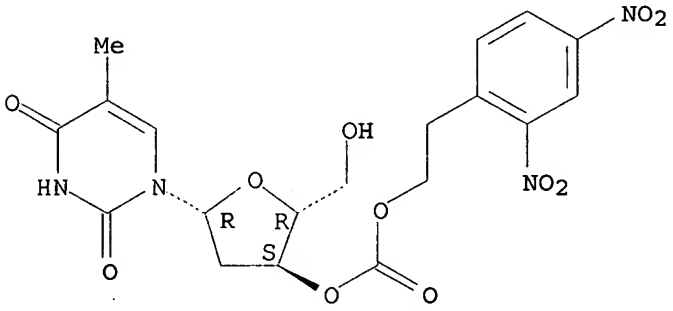
L4 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:409092 CAPLUS
DOCUMENT NUMBER: 119:9092
TITLE: Nucleosides. Part LI. The 2-(4-nitrophenyl)ethoxycarbonyl (npeoc) and 2-(2,4-dinitrophenyl)ethoxycarbonyl (dnpeoc) groups for protection of hydroxy functions in ribonucleosides and 2'-deoxyribonucleosides
AUTHOR(S): Schirmeister, Helga; Himmelsbach, Frank; Pfleiderer, Wolfgang
CORPORATE SOURCE: Fak. Chem., Univ. Konstanz, Konstanz, D-7750, Germany
SOURCE: Helvetica Chimica Acta (1993), 76(1), 385-401
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The common 2'-deoxypyrimidine and -purine nucleosides, thymidine, O4-[2-(4-nitrophenyl)ethyl]thymidine, 2'-deoxy-N4-[2-(4-nitrophenyl)ethoxycarbonyl]cytidine, 2'-deoxy-N6-[2-(4-nitrophenyl)-ethoxycarbonyl]adenosine, and 2'-deoxy-N2-[2-(4-nitrophenyl)ethoxycarbonyl]-O6-[2-(4-nitrophenyl)ethyl]-guanosine were further protected by the 2-(4-nitrophenyl)ethoxycarbonyl and the 2-(2,4-dinitrophenyl)ethoxycarbonyl group at the OH functions of the sugar moiety to form new partially and fully blocked intermediates for nucleoside and nucleotide syntheses. The newly synthesized compds. were characterized by elemental analyses and UV and 1H NMR spectra.
IT 111244-91-8P 112138-22-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 111244-91-8 CAPLUS
CN Thymidine, 5'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 112138-22-4 CAPLUS
CN Thymidine, 3'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



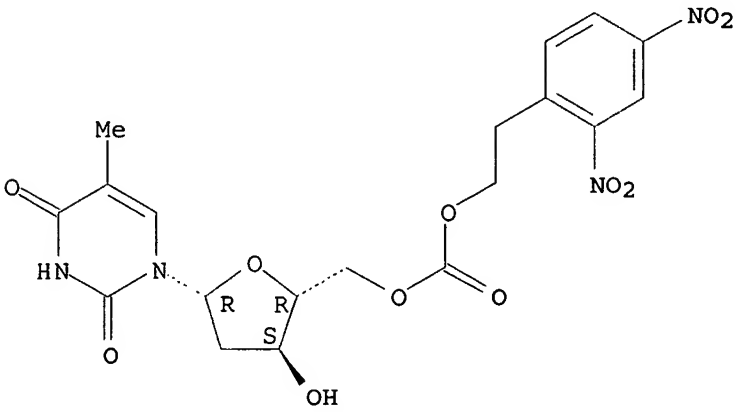
L4 ANSWER 27 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:38280 CAPLUS
DOCUMENT NUMBER: 108:38280
TITLE: New protecting groups in nucleoside and nucleotide chemistry
AUTHOR(S): Pfleiderer, W.; Schirmeister, H.; Reiner, T.; Pfister, M.; Charubala, R.
CORPORATE SOURCE: Fak. Chem., Univ. Konstanz, Konstanz, D-7750, Fed. Rep. Ger.
SOURCE: Bioactive Molecules (1987), 3(Biophosphates Their Analogues), 133-42
CODEN: BMOLEY; ISSN: 0921-0687
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Various β-heteroarylethyl groups were developed as a new set of phosphate protecting groups. Cleavage proceeds by β-elimination due to activation of the β-hydrogen atoms by the ring nitrogens of the heterocycle. Sugar hydroxyl groups can effectively be blocked by the p-nitrophenylethoxycarbonyl (NPEOC) and the 2,4-dinitrophenylethoxycarbonyl (DNPEOC) group to give carbonates of different stability. Selective deprotection of the DNPEOC over the NPEOCv residue can be achieved. The o-nitrophenylethyl group is not only prone to β-elimination cleavage but also to photolytic removal. The p-nitrophenylethylsulfonyl (NPES) group is a new OH-protecting group especially suitable for blocking the 2'-OH position in ribonucleosides. Stable

2'-sulfonates are formed, which do not show intramol. acyl migration but undergo β-elimination on removal.

IT 111244-91-8P 112138-22-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

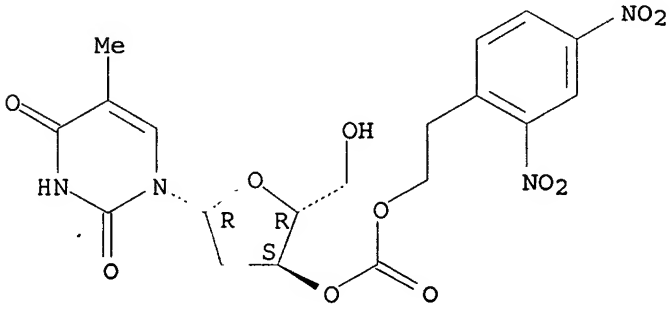
RN 111244-91-8 CAPLUS
CN Thymidine, 5'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 112138-22-4 CAPLUS
CN Thymidine, 3'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

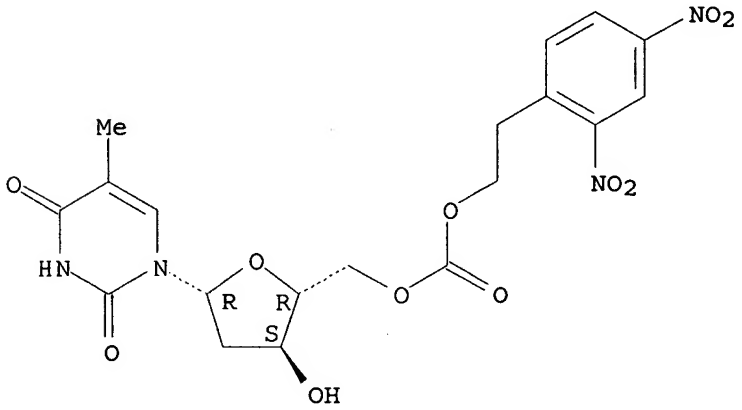


L4 ANSWER 28 OF 28 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:618016 CAPLUS
DOCUMENT NUMBER: 107:218016
TITLE: Preparation of 5'-acylated deoxyribonucleosides as intermediates in oligonucleotide synthesis
INVENTOR(S): Pfleiderer, Wolfgang
PATENT ASSIGNEE(S): Fed. Rep. Ger.
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3606395	A1	19870903	DE 1986-3606395	19860227

PRIORITY APPLN. INFO.: DE 1986-3606395 19860227
OTHER SOURCE(S): CASREACT 107:218016
AB 2'-Deoxyribonucleosides protected at the 5'-position by a base-labile group were prepared for use in synthesis of oligodeoxyribonucleotides. Thus, (2,4-dinitrophenyl)ethyl chloroformate in CH2Cl2 was added to thymidine in pyridine at 0° to give 56% 5'-[O-(2,4-dinitrophenyl)ethoxycarbonyl]thymidine.
IT 111244-91-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 111244-91-8 CAPLUS
CN Thymidine, 5'-[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> FIL HOME

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	144.92	317.19

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-21.00	-21.00

FILE 'HOME' ENTERED AT 18:34:26 ON 29 AUG 2006

=> d his

(FILE 'HOME' ENTERED AT 18:29:47 ON 29 AUG 2006)

FILE 'REGISTRY' ENTERED AT 18:29:58 ON 29 AUG 2006
L1 STRUCTURE UPLOADED
L2 2 S L1 SSS SAM
L3 88 S L1 SSS FULL

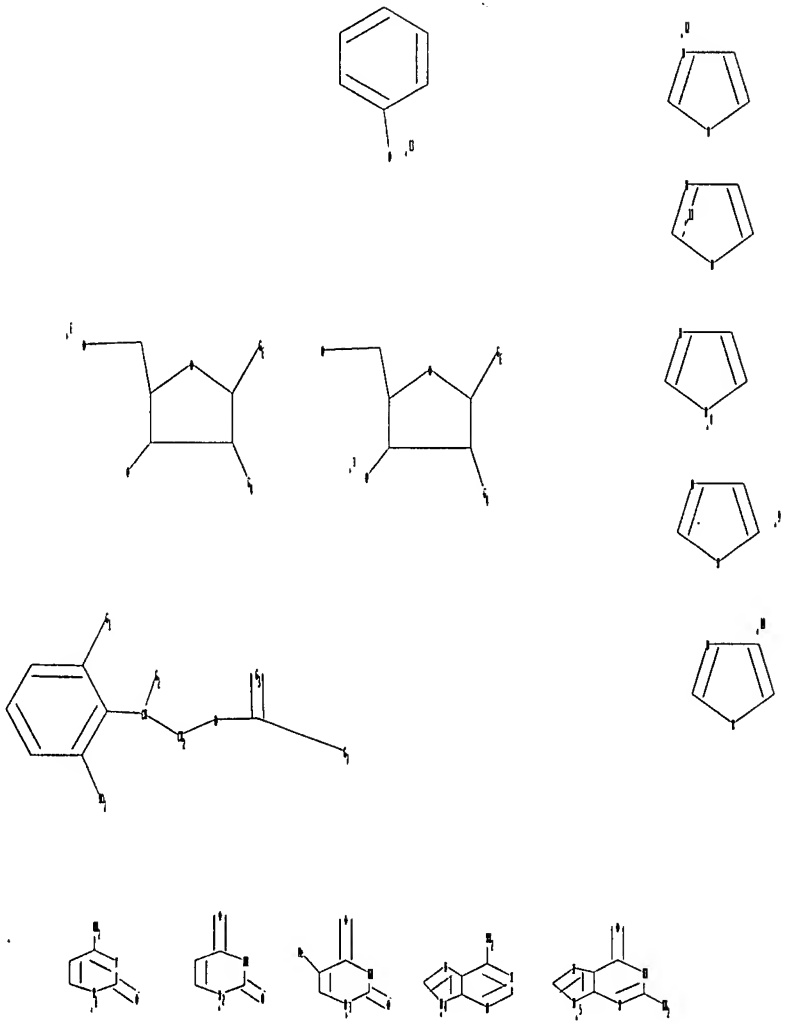
FILE 'CAPLUS' ENTERED AT 18:32:19 ON 29 AUG 2006
L4 28 S L3

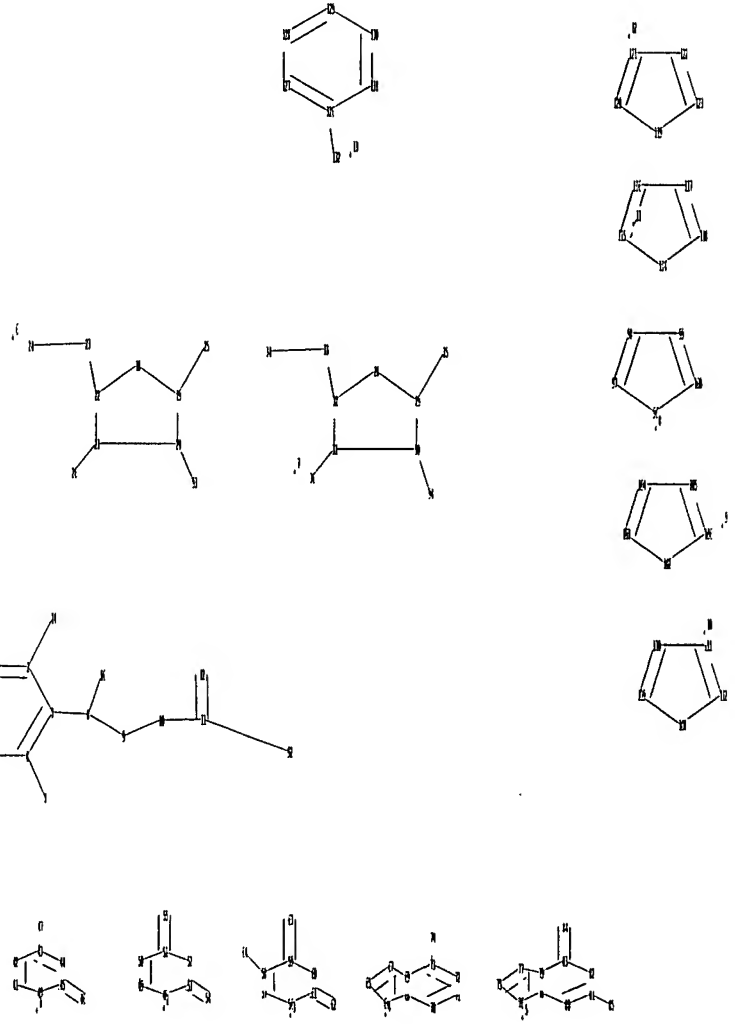
FILE 'HOME' ENTERED AT 18:34:26 ON 29 AUG 2006

=> d l1
L1 HAS NO ANSWERS
L1 STR

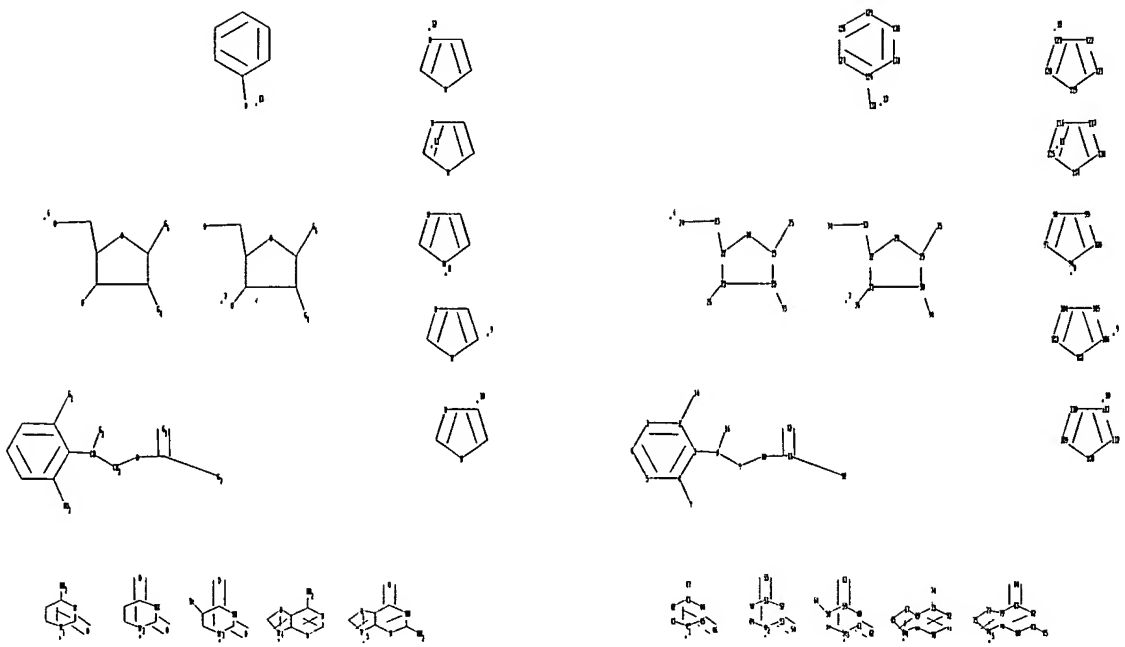
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

```
=> d HIS

     (FILE 'HOME' ENTERED AT 12:30:16 ON 30 AUG 2006)

     FILE 'REGISTRY' ENTERED AT 12:30:30 ON 30 AUG 2006
L1               STRUCTURE UPLOADED
L2             2 S L1 SSS SAM
L3            56 S L1 SSS FULL

     FILE 'CAPLUS' ENTERED AT 12:32:39 ON 30 AUG 2006
L4            29 S L3
L5            22 S L4 AND 1800<=PY<=2003
```





=>
Uploading C:\Program Files\Stnexp\Queries\989claim5-11.str



chain nodes :
7 8 9 10 11 12 14 16 23 24 25 26 33 34 35 36 46 47 54 55 62
63 64 74 84 85 92 93 94 132
ring nodes :
1 2 3 4 5 6 18 19 20 21 22 28 29 30 31 32 40 41 42 43 44 45
48 49 50 51 52 53 56 57 58 59 60 61 65 66 67 68 69 70 71 72 73
75 76 77 78
79 80 81 82 83 96 97 98 99 100 102 103 104 105 106 108 109 110
111 112 114 115
116 117 118 119 120 121 122 123 126 127 128 129 130 131
chain bonds :
2-14 3-8 4-7 8-9 8-16 9-10 10-11 11-12 11-92 19-25 20-93 21-26 22-23
23-24 29-35 30-94 31-36 32-33 33-34 43-47 45-46 51-55 53-54 58-64 59-63
61-62 73-74
81-85 83-84 126-132

ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-22 19-20 20-21 21-22 28-29 28-32 29-30
30-31 31-32 40-45 40-41 41-42 42-43 43-44 44-45 48-53 48-49 49-50 50-51
51-52 52-53
56-61 56-57 57-58 58-59 59-60 60-61 65-66 65-67 66-68 67-69 68-69 68-70
69-73 70-71
71-72 72-73 75-76 75-77 76-78 77-79 78-79 78-80 79-83 80-81 81-82 82-83
96-97 96-100
97-98 98-99 99-100 102-103 102-106 103-104 104-105 105-106 108-109 108-112
109-110 110-111
111-112 114-115 114-118 115-116 116-117 117-118 119-120 119-123 120-121
121-122 122-123
126-127 126-131 127-128 128-129 129-130 130-131
exact/norm bonds :
2-14 8-16 10-11 11-12 11-92 18-19 18-22 19-20 19-25 20-21 20-93 21-22
21-26 23-24 28-29 28-32 29-30 29-35 30-31 30-94 31-32 31-36 33-34 40-45
40-41 41-42
42-43 43-44 43-47 44-45 45-46 48-53 48-49 49-50 50-51 51-52 51-55 52-53
53-54 56-61 56-57
57-58 58-59 59-60 59-63 60-61 61-62 65-66 65-67 66-68 67-69 73-74 75-76
75-77 76-78
77-79 78-79 78-80 79-83 80-81 81-82 81-85 82-83 83-84 96-97 96-100 97-98
98-99 99-100
102-103 102-106 103-104 104-105 105-106 108-109 108-112 109-110 110-111
111-112 114-115
114-118 115-116 116-117 117-118 119-120 119-123 120-121 121-122 122-123
126-132
exact bonds :
3-8 4-7 8-9 9-10 22-23 32-33 58-64
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 68-69 68-70 69-73 70-71 71-72 72-73 126-127
126-131 127-128 128-129 129-130 130-131

G1:H,Cl,Br,F,I,NO2

G2:H,MeO,Ak

G3:O,S

G4:O,S

G5:H,N

G6:[*1],[*2],[*3],[*4],[*5]

G7:S,Si,Cl,Br,F,I,[*6],[*7],[*8],[*9],[*10],[*11],[*12],[*13]

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 14:CLASS 16:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom
23:CLASS
24:CLASS 25:CLASS 26:CLASS 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 33:CLASS
34:CLASS 35:CLASS
36:CLASS 40:Atom 41:Atom 42:Atom 43:Atom 44:Atom 45:Atom 46:CLASS 47:CLASS
48:Atom
49:Atom 50:Atom 51:Atom 52:Atom 53:Atom 54:CLASS 55:CLASS 56:Atom 57:Atom
58:Atom 59:Atom
60:Atom 61:Atom 62:CLASS 63:CLASS 64:CLASS 65:Atom 66:Atom 67:Atom 68:Atom
69:Atom 70:Atom
71:Atom 72:Atom 73:Atom 74:CLASS 75:Atom 76:Atom 77:Atom 78:Atom 79:Atom
80:Atom 81:Atom
82:Atom 83:Atom 84:CLASS 85:CLASS 92:CLASS 93:CLASS 94:CLASS 96:Atom
97:Atom 98:Atom

99:Atom 100:Atom 102:Atom 103:Atom 104:Atom 105:Atom 106:Atom 108:Atom
109:Atom 110:Atom
111:Atom 112:Atom 114:Atom 115:Atom 116:Atom 117:Atom 118:Atom 119:Atom
120:Atom 121:Atom
122:Atom 123:Atom 126:Atom 127:Atom 128:Atom 129:Atom 130:Atom 131:Atom
132:CLASS

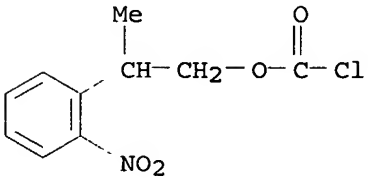
```
=> s l3
L4          29 L3

=> S L4 AND 1800<=PY<=2003
      23862460 1800<=PY<=2003
L5          22 L4 AND 1800<=PY<=2003

=> d l5 ibib abs hitstr 1-22
```

L5 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:827089 CAPLUS
DOCUMENT NUMBER: 140:77372
TITLE: Synthesis of photolabile 2-(2-nitrophenyl)propyloxycarbonyl protected amino acids
AUTHOR(S): Bhushan, Kumar R.; DeLisi, Charles; Laursen, Richard A.
CORPORATE SOURCE: Department of Biomedical Engineering, Boston University, Boston, MA, 02215, USA
SOURCE: Tetrahedron Letters (2003), 44(47), 8585-8588
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:77372

AB The 2-(2-nitrophenyl)propyloxycarbonyl (NPPOC) group has been introduced as a photolabile amino protecting group for amino acids to be used as building blocks in photolithog. solid-phase peptide synthesis. NPPOC-protected amino acids were found to be cleaved in the presence of UV light about twice as fast as the corresponding o-nitroveratryloxycarbonyl (NVOC)-protected amino acids.

IT 179691-31-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of photolabile (nitrophenyl)propyloxycarbonyl-protected amino acids)

RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:396770 CAPLUS
DOCUMENT NUMBER: 138:381665
TITLE: Biochip substrates and method for the synthesis of biopolymer arrays on the substrate
INVENTOR(S): Klapproth, Holger; Lehmann, Mirko; Freund, Ingo; Stuerken, Joachim
PATENT ASSIGNEE(S): Micronas G.m.b.H., Germany; Biochip Technologies G.m.b.H.
SOURCE: PCT Int. Appl., 42 pp.

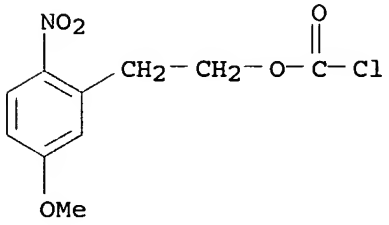
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041853	A1	20030522	WO 2002-EP12606	20021112 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10156467	A1	20030605	DE 2001-10156467	20011116 <--
EP 1441847	A1	20040804	EP 2002-787641	20021112
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2005070009	A1	20050331	US 2004-495845	20041126
PRIORITY APPLN. INFO.:			DE 2001-10156467 A	20011116
			WO 2002-EP12606 W	20021112

AB The invention concerns polymeric biochip substrates that incorporate light sources (LEDs or laser diodes) and that have reactive starter groups on their surface, preferably OH-groups; the OH groups are protected with non-reactive groups; biopolymers are synthesized on the surface of the substrate in a multistep procedure. Regions of the chip matrix are selectively activated by the cleavage of the protecting groups using the built in light source; biomonomers with protecting groups are added and coupled; the procedure is repeated until the required biopolymer arrays are synthesized. The process is controlled by a computer. Cleavage of the protecting groups can be also initiated by pH changes via electrodes. Monomers are nucleotides, oligonucleotides, amino acids, peptides, saccharides etc. An example is presented for silanizing a CMOS sensor with glycidoxypropyltrimethoxysilane (GOPS), hydroxy-functionalizing with ethylene glycol in the presence of sulfuric acid traces and protecting the OH-groups with p-nitrophenyl-ethoxycarbonyl (pNPEOC)-groups. Biopolymers were synthesized on the chip surface under UV radiation using com. available pNPEOC-protected nucleotides.

IT 179691-27-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(protective group; biochip substrates and method for synthesis of biopolymer arrays on substrate)

RN 179691-27-1 CAPLUS
CN Carbonochloridic acid, 2-(5-methoxy-2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



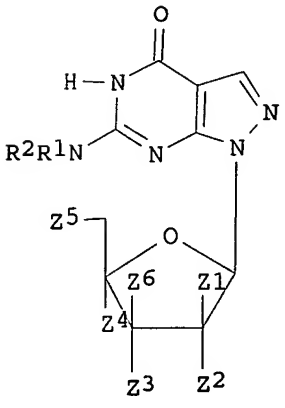
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:221699 CAPLUS
DOCUMENT NUMBER: 138:221790
TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups
INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.
PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

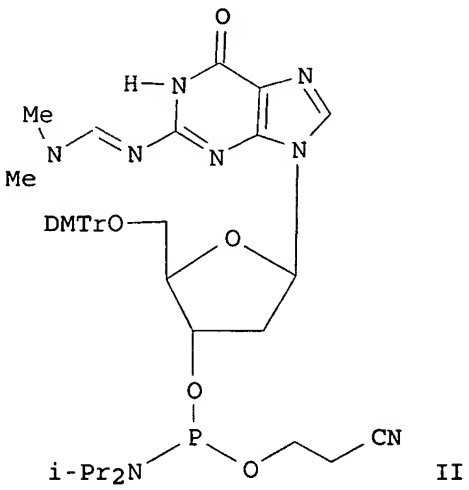
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905 <--
WO 2003022859	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912 <--
US 6962991	B2	20051108		
EP 1427743	A2	20040616	EP 2002-766251	20020905
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2004191824	A1	20040930	US 2004-816747	20040401
US 2006014943	A1	20060119	US 2005-230986	20050919

PRIORITY APPLN. INFO.:
US 2001-954624 A 20010912
WO 2002-US28476 W 20020905
US 2004-816747 B1 20040401

OTHER SOURCE(S): CASREACT 138:221790; MARPAT 138:221790
GI



I



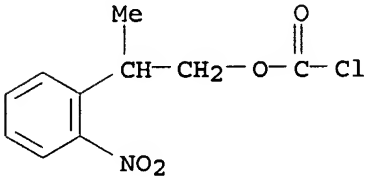
II

AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical production of a large quantity of nucleosides. Thus, II was prepared via halogenation reaction and using photolabile hydroxy protecting groups.

IT 179691-31-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 179691-31-7 CAPLUS

CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



L5 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:58099 CAPLUS
DOCUMENT NUMBER: 138:90025
TITLE: Synthesis of oligodeoxyribonucleotides via condensation of nucleoside phosphoramidites
INVENTOR(S): Stengele, Klaus-Peter; Pfleiderer, Wolfgang
PATENT ASSIGNEE(S): Chemogenix G.m.b.H., Germany
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003006476	A1	20030123	WO 2002-EP7657	20020709 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10133779	A1	20030206	DE 2001-10133779	20010716 <--
EP 1409505	A1	20040421	EP 2002-764662	20020709
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2004203036	A1	20041014	US 2004-754447	20040109
PRIORITY APPLN. INFO.:			DE 2001-10132536 A	20010709
			DE 2001-10133779 A	20010716
			WO 2002-EP7657 W	20020709

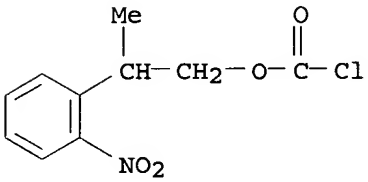
OTHER SOURCE(S): MARPAT 138:90025

AB The present invention relates to a process for the preparation of polynucleotides, whereby under suitable usual conditions the free 5'-hydroxy group, whose terminal 3'-hydroxy group contains a usual protecting group, is reacted with a hydroxy group, derivatized in a previous reaction step to a phosphite amido-ester, phosphotriester or phosphonic acid ester, whereby said hydroxy group is a 3'-hydroxy function of a free or solid phase bound polynucleotide, or a solid phase bound hydroxy function. Further the present invention relates to a kit for performing a process according to the invention, which contains at least one or more selected oligonucleotides, having a free 5'-hydroxy group and a protected 3'-hydroxy group. Further on, the present invention relates to new oligonucleotides and their use as building blocks for the synthesis of polynucleotides in the process according to the invention. Furthermore the present invention relates to the use of the process according to the invention or the use of the kits for the preparation of poly/oligonucleotides resp. polynucleotide libraries or nucleic acid chips. Thus, thymidyl-{3'-[OP-(2-cyanoethyl)]→5'}-3'-O-[2-(2-nitrophenyl)propyloxycarbonyl]thymidine was prepared in 82% yield by coupling of 5'-O-(4,4'-dimethoxytrityl)thymidine-3'-O-[(2-cyanoethyl)-N,N-diisopropylphosphoramidite] with 3'-O-[2-(2-nitrophenyl)propyloxycarbonyl] thymidine in presence of 4,5-dicyanoimidazole.

IT 179691-31-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of oligodeoxyribonucleotides via condensation of nucleoside phosphoramidites)

RN 179691-31-7 CAPLUS

CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:42285 CAPLUS

DOCUMENT NUMBER: 138:90021

TITLE: Synthesis of protecting groups containing photolabile groups for use in synthesis of nucleic acid derivatives

INVENTOR(S): Guimil, Ramon; Scheffler, Matthias; Stahler, Peer F.; Beijer, Barbro

PATENT ASSIGNEE(S): Febit A.-G., Germany

SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003004510	A1	20030116	WO 2002-EP7389	20020703 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

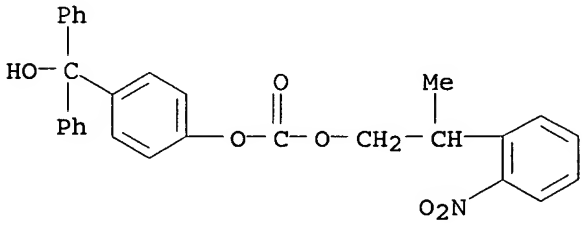
DE 10132025	A1	20030206	DE 2001-10132025		20010703 <--
EP 1401851	A1	20040331	EP 2002-754822		20020703
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK					
US 2004197851	A1	20041007	US 2004-482744		20040105
PRIORITY APPLN. INFO.:			DE 2001-10132025	A	20010703
			US 2001-314306P	P	20010824
			WO 2002-EP7389	W	20020703

OTHER SOURCE(S): CASREACT 138:90021; MARPAT 138:90021

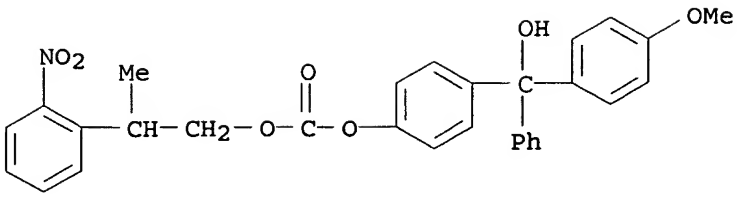
AB The preparation of 5'-O-protecting groups for solid-phase oligodeoxynucleotide or -nucleotide synthesis, (e.g., in microarray chip production, no data), in which one part of the protecting group is photolabile and the remainder can be easily cleaved using mild chemical techniques, is claimed. Preparation of protecting groups [I; (R-4-C6H4-)(R1-4-C6H4-)(R2-4-C6H4-)C-; R, R1 = independently H, OR3, O(CH2)nC(O)OR3; R3 = alkyl, alkenyl, alkynyl, aryl; R2 = photolabile protecting group; n = 0-4; R, R1 may = R2 or a fluorescent label] was given. For example, I-dThd-P(OCH2CH2CN)N(iPr)2 (R, R1, R2 = (CH3CH(O2N-2-C6H4)CH2OC(O)O-4-C6H4)3C-) was prepared in three steps by reaction of pararosolic acid with CH3CH(O2N-2-C6H4)CH2OC(O)Cl (the photolabile group) to give the tri-4-O-protected carbinol, which was directly reacted with thymidine to give product.

IT 483981-03-9P 483981-04-0P 483981-05-1P
483981-06-2P 483981-07-3P 483981-08-4P
484023-70-3P 484023-71-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of in the preparation of protecting groups containing photolabile groups)

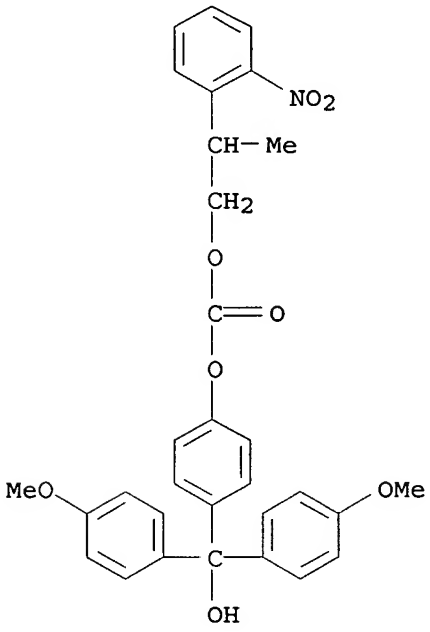
RN 483981-03-9 CAPLUS
CN Carbonic acid, 4-(hydroxydiphenylmethyl)phenyl 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



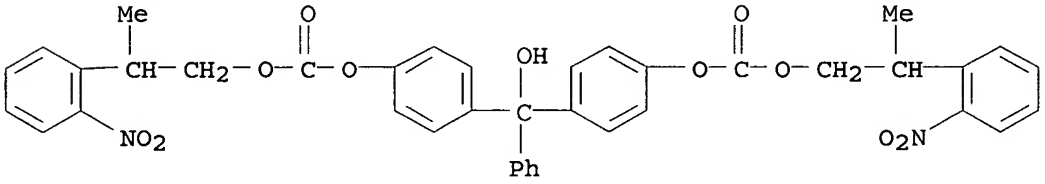
RN 483981-04-0 CAPLUS
CN Carbonic acid, 4-[hydroxy(4-methoxyphenyl)phenylmethyl]phenyl 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



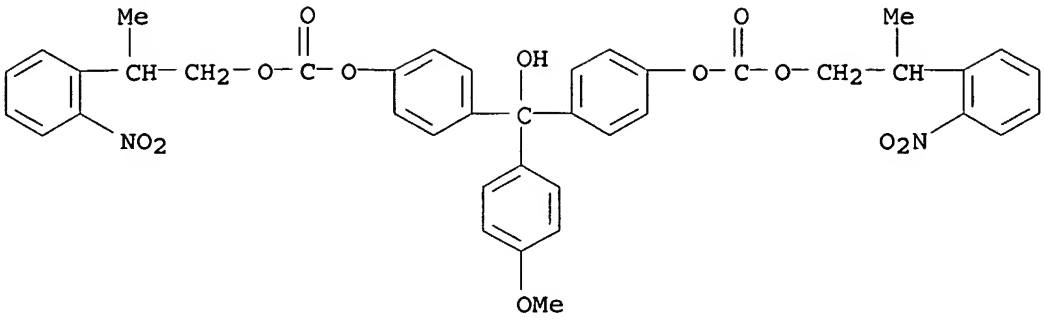
RN 483981-05-1 CAPLUS
CN Carbonic acid, 4-[hydroxybis(4-methoxyphenyl)methyl]phenyl 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 483981-06-2 CAPLUS
CN Carbonic acid, (hydroxyphenylmethylene)di-4,1-phenylene bis[2-(2-nitrophenyl)propyl] ester (9CI) (CA INDEX NAME)

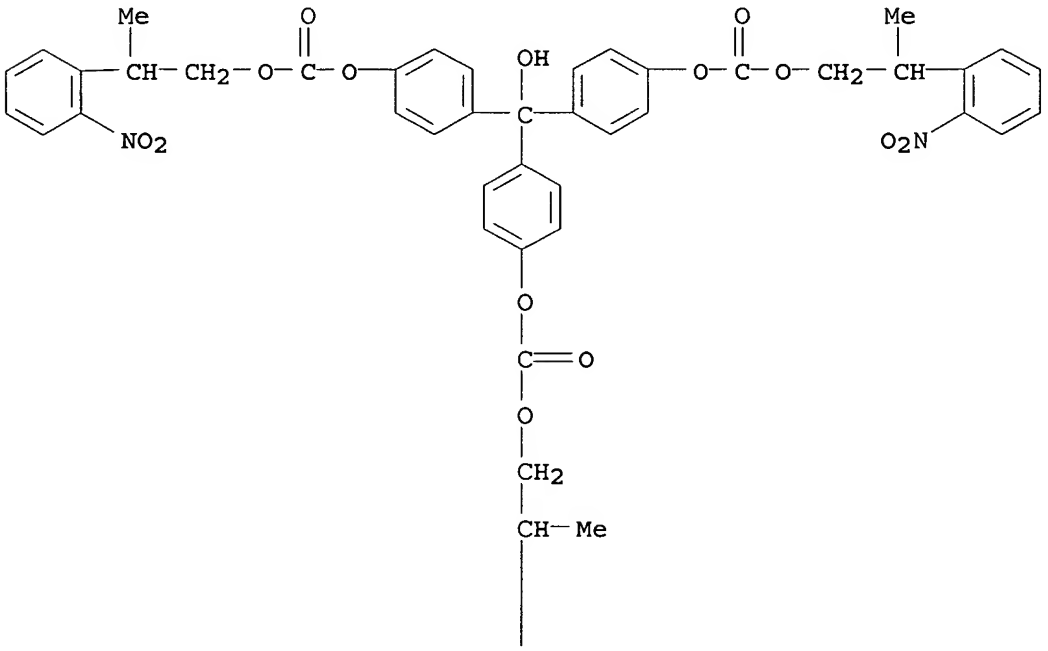


RN 483981-07-3 CAPLUS
CN Carbonic acid, [hydroxy(4-methoxyphenyl)methylene]di-4,1-phenylene bis[2-(2-nitrophenyl)propyl] ester (9CI) (CA INDEX NAME)

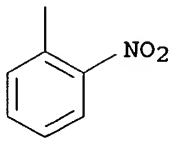


RN 483981-08-4 CAPLUS
CN Carbonic acid, (hydroxymethylidyne)tri-4,1-phenylene tris[2-(2-nitrophenyl)propyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A

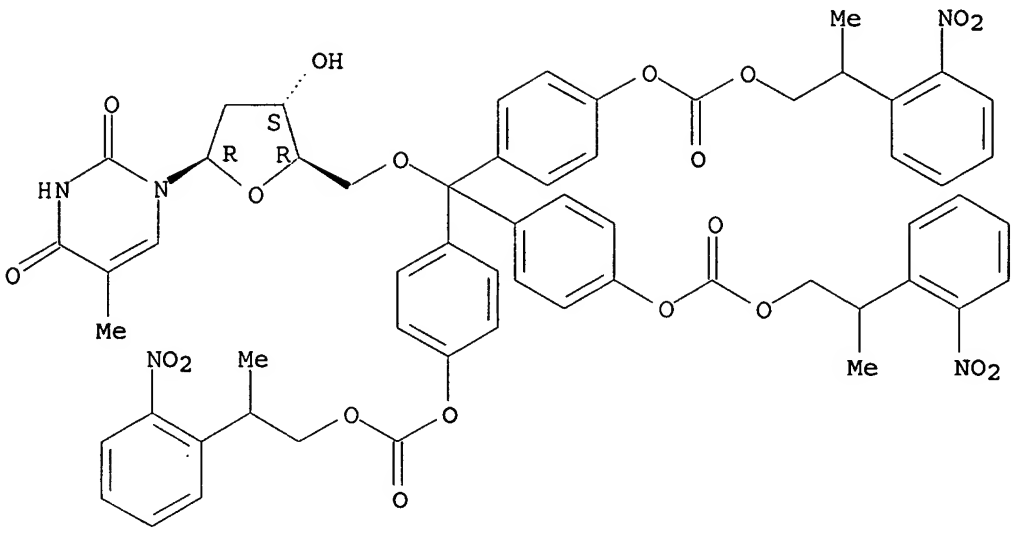


PAGE 2-A



RN 484023-70-3 CAPLUS
CN Thymidine, 5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

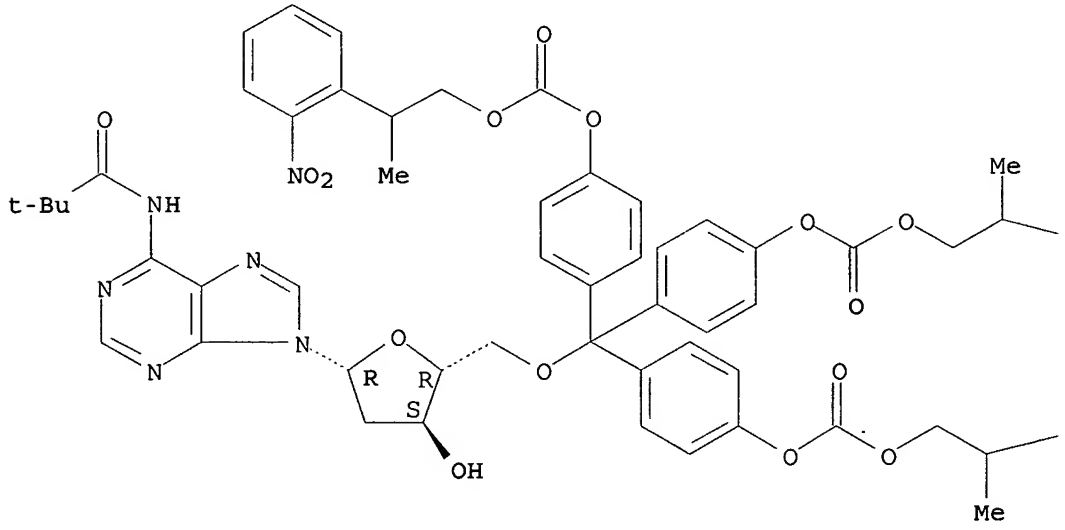
Absolute stereochemistry.

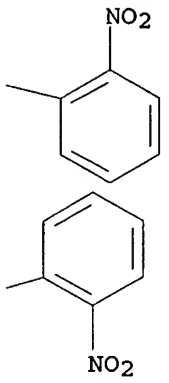


RN 484023-71-4 CAPLUS
CN Adenosine, 2'-deoxy-N-(2,2-dimethyl-1-oxopropyl)-5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

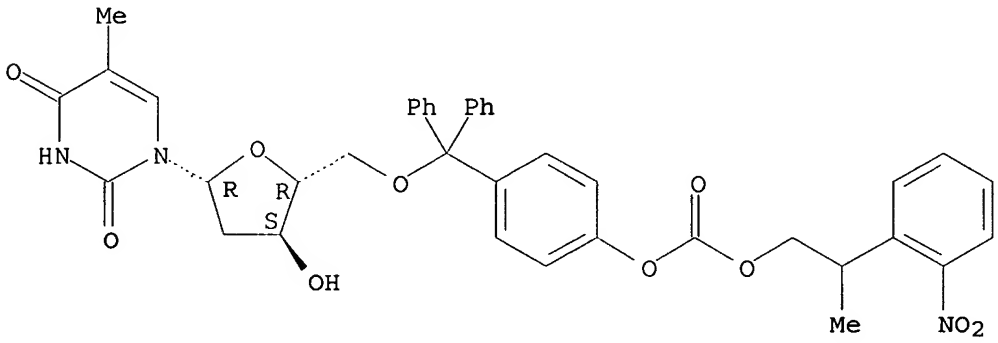
PAGE 1-A





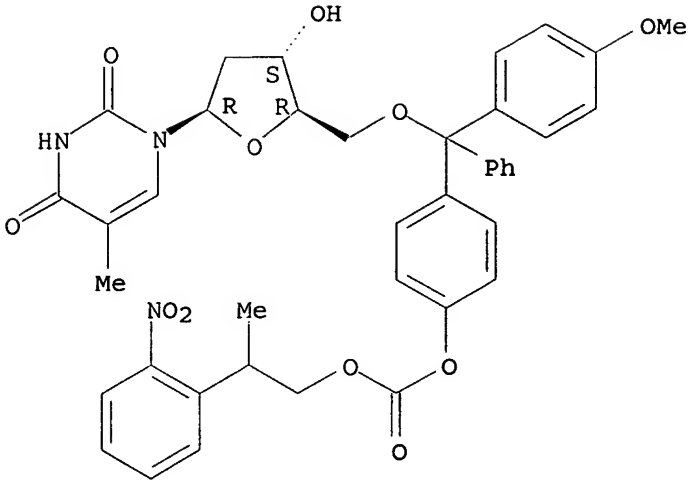
IT 483981-09-5P 483981-10-8P 483981-11-9P
483981-12-0P 483981-13-1P 484023-72-5P
484023-73-6P 484023-74-7P 484023-75-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of protecting groups containing photolabile groups for use in synthesis of nucleic acid derivs. for microchip production)
RN 483981-09-5 CAPLUS
CN Thymidine, 5'-O-[[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]diphenylmethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



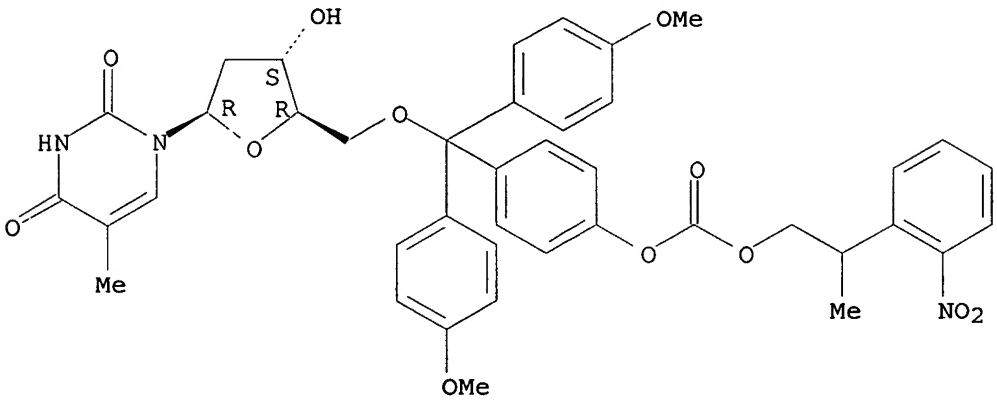
RN 483981-10-8 CAPLUS
CN Thymidine, 5'-O-[(4-methoxyphenyl)[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]phenylmethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



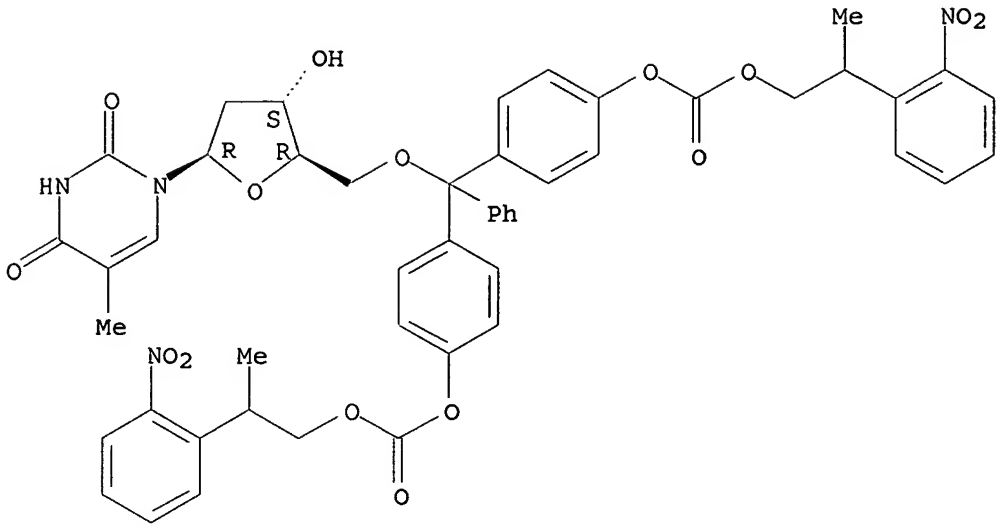
RN 483981-11-9 CAPLUS
CN Thymidine, 5'-O-[bis(4-methoxyphenyl)[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



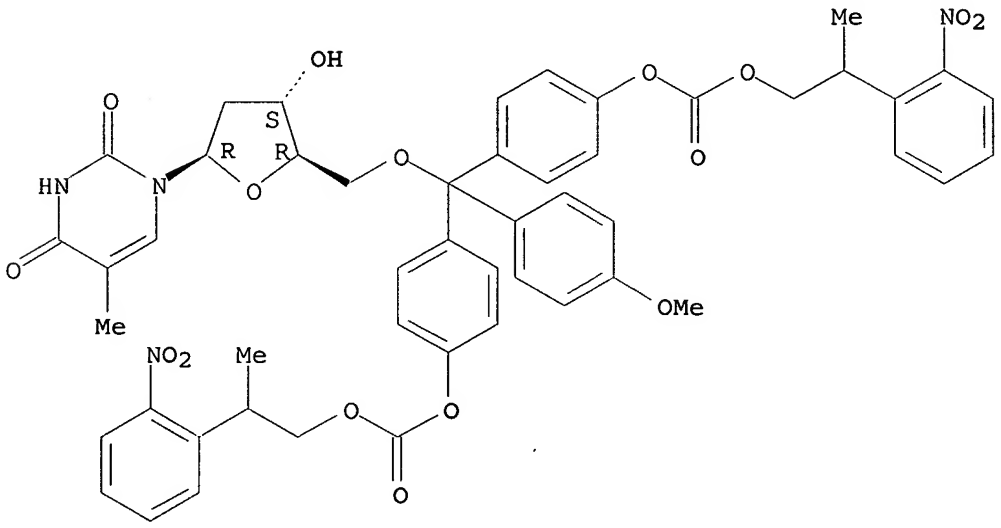
RN 483981-12-0 CAPLUS
CN Thymidine, 5'-O-[bis[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]phenylmethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 483981-13-1 CAPLUS
CN Thymidine, 5'-O-[(4-methoxyphenyl)bis[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

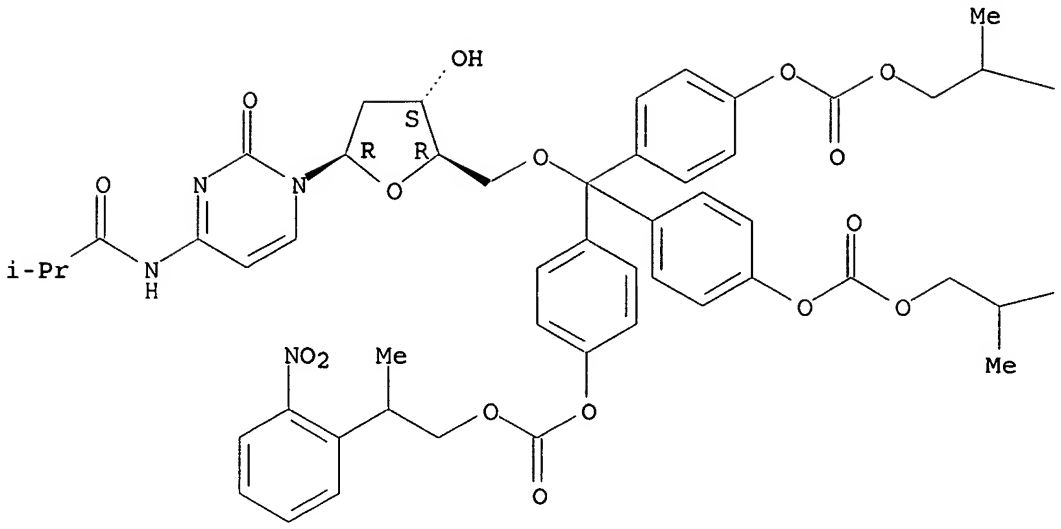
Absolute stereochemistry.



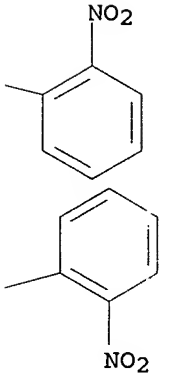
RN 484023-72-5 CAPLUS
CN Cytidine, 2'-deoxy-N-(2-methyl-1-oxopropyl)-5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



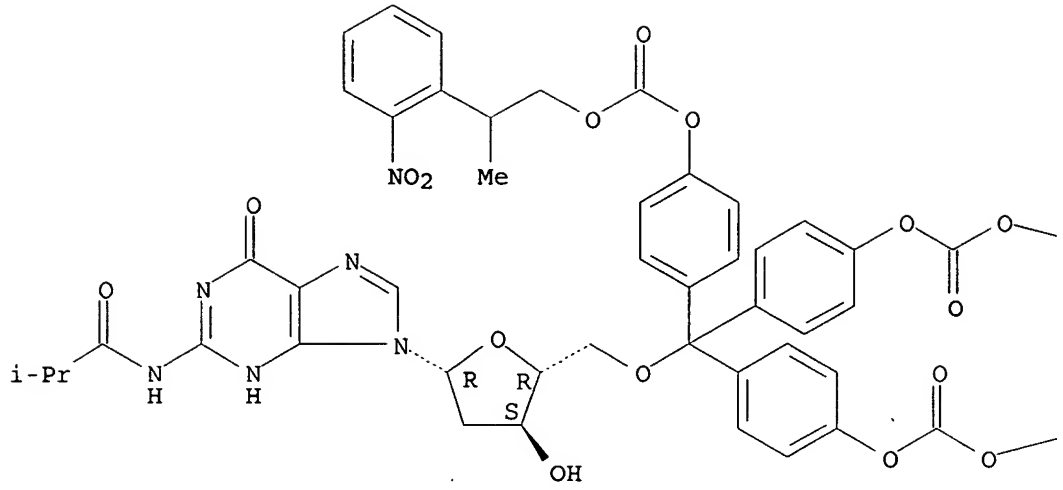
PAGE 1-B



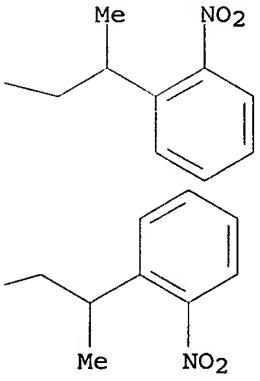
RN 484023-73-6 CAPLUS
CN Guanosine, 2'-deoxy-N-(2-methyl-1-oxopropyl)-5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



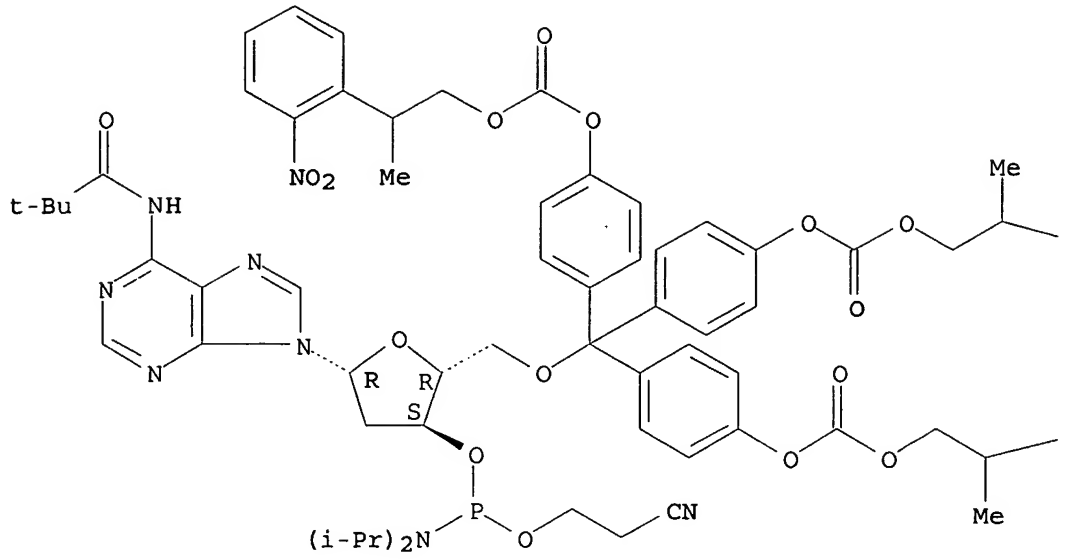
PAGE 1-B



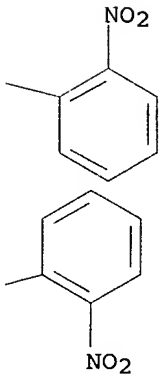
RN 484023-74-7 CAPLUS
CN Adenosine, 2'-deoxy-N-(2,2-dimethyl-1-oxopropyl)-5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

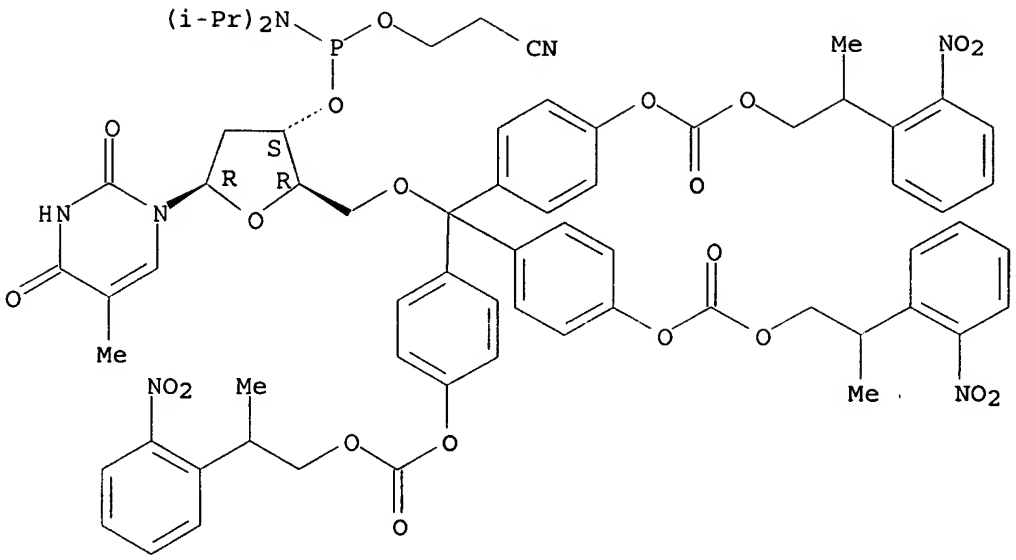


PAGE 1-B

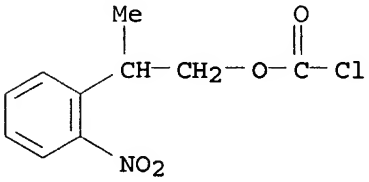


RN 484023-75-8 CAPLUS
CN Thymidine, 5'-O-[tris[4-[[[2-(2-nitrophenyl)propoxy]carbonyl]oxy]phenyl]methyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 179691-31-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of in the preparation of protecting groups containing photolabile groups)
RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

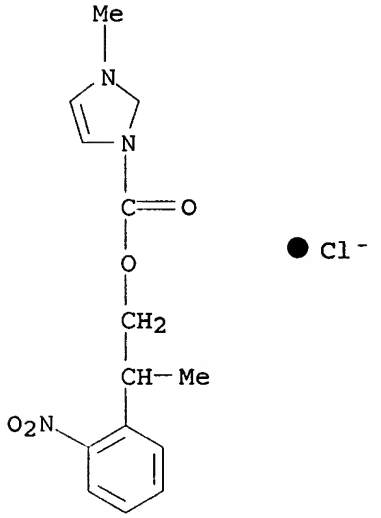
L5 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:658632 CAPLUS
DOCUMENT NUMBER: 135:371950
TITLE: Synthesis of photolabile 5'-O-phosphoramidites for the photolithographic production of microarrays of inversely oriented oligonucleotides
AUTHOR(S): Beier, Markus; Stephan, Achim; Hoheisel, Jorg D.
CORPORATE SOURCE: Functional Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, D-69120, Germany
SOURCE: Helvetica Chimica Acta (2001), 84(7), 2089-2095
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:371950
AB The photolabile 3'-O-{[2-(2-nitrophenyl)propoxy]carbonyl}-protected 5'-phosphoramidites were synthesized for an alternative mode of light-directed production of oligonucleotide arrays. Because of the characteristics of these monomeric building blocks, photolithog. in situ DNA synthesis occurred in 5' → 3' direction, in agreement with the

orientation of enzymic synthesis. Synthesis yields were as good as those of conventional reactions. The resulting oligonucleotides are attached to the surface via their 5'-termini, while the 3'-hydroxy groups are available as substrates for enzymic reactions such as primer extension upon hybridization of a DNA template. The production of such oligonucleotide chips adds new procedural avenues to the growing number of applications of DNA microarrays.

IT 298699-67-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of photolabile phosphoramidites for the photolithog. production of microarrays of inversely oriented oligonucleotides)

RN 298699-67-9 CAPLUS

CN 1H-Imidazolium, 1-methyl-3-[[2-(2-nitrophenyl)propoxy]carbonyl]-, chloride (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:561245 CAPLUS

DOCUMENT NUMBER: 135:289010

TITLE: Photolabile protecting groups for nucleosides: mechanistic studies of the 2-(2-nitrophenyl)ethyl group

AUTHOR(S): Walbert, Stefan; Pfleiderer, Wolfgang; Steiner, Ulrich E.

CORPORATE SOURCE: Fachbereich Chemie der Universitat Konstanz, Konstanz, D-78457, Germany

SOURCE: Helvetica Chimica Acta (2001), 84(6), 1601-1611
CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:289010

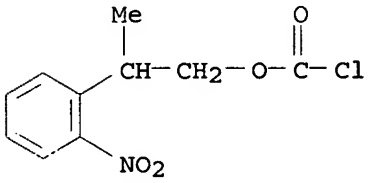
AB The photochem. of several 2-(2-nitrophenyl)ethyl-caged compds. including caged thymidine nucleosides was studied by nanosecond laser flash photolysis and stationary illumination expts. with quant. HPLC anal. for quantum yields and product distribution. Effects of solvent basicity and acidity were investigated by varying the H2O content and HCl concentration, resp., in MeCN/H2O mixts. For all compds. investigated, intramol. H

abstraction by the nitro group from the exocyclic α-position with respect to the aryl moiety was found to be the primary process. The protolytic dissociation equilibrium of the resulting aci-nitro compound was kinetically characterized in the 0.1 - 10 μs time region. In general, two reaction channels compete for the aci-nitro compound and its anion: β-elimination of the caged compound occurs from the anion, while from the undissociated aci-nitro compound, a nitrosobenzene derivative is formed with no release of the caged compound The yield ratio of these two reaction channels can be controlled through shifts in the protolytic dissociation equilibrium of the aci-nitro compound In solns. with either low basicity (H2O-free MeCN) or high acidity (higher concentration of HCl in H2O/MeCN), two as yet unidentified products are formed, each one specifically for one of the mentioned conditions.

IT 179691-31-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(mechanistic studies of the photolabile nitrophenylethyl protecting group for nucleosides)

RN 179691-31-7 CAPLUS

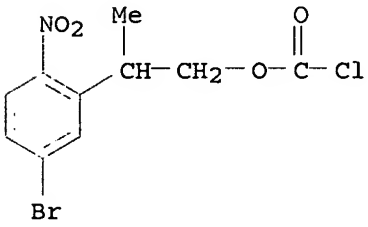
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



IT 335201-61-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(mechanistic studies of the photolabile nitrophenylethyl protecting group for nucleosides)

RN 335201-61-1 CAPLUS

CN Carbonochloridic acid, 2-(5-bromo-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



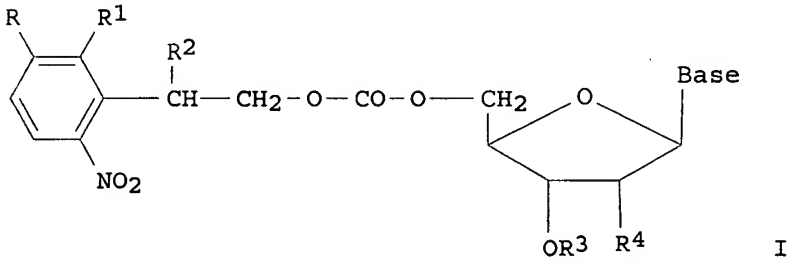
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:319407 CAPLUS
DOCUMENT NUMBER: 134:311401
TITLE: Preparation and use of photo-labile 5'-O-protecting groups for nucleosides for synthesis reactions
INVENTOR(S): Pfleiderer, Wolfgang; Buhler, Sigrid; Giegrich, Heiner
PATENT ASSIGNEE(S): Nigu Chemie G.m.b.H., Germany
SOURCE: Ger. Offen., 18 pp.

CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19952113	A1	20010503	DE 1999-19952113	19991029 <--
CA 2385262	AA	20010510	CA 2000-2385262	20001010 <--
WO 2001032671	A1	20010510	WO 2000-EP9958	20001010 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1224198	A1	20020724	EP 2000-966152	20001010 <--
EP 1224198	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003513101	T2	20030408	JP 2001-535372	20001010 <--
AT 238334	E	20030515	AT 2000-966152	20001010 <--
US 2002146737	A1	20021010	US 2002-108565	20020329 <--
US 6750335	B2	20040615		

PRIORITY APPLN. INFO.: DE 1999-19952113 A 19991029
WO 2000-EP9958 W 20001010
OTHER SOURCE(S): CASREACT 134:311401; MARPAT 134:311401
GI



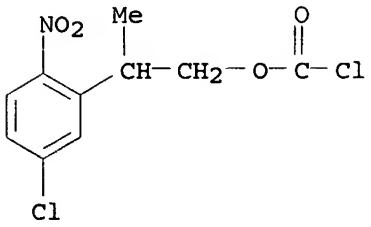
I

AB The invention concerns synthesis and use of photo-labile 5'-O-protected nucleosides [(I); R = H, F, Cl, Br, I, NO2; R1 = H, CN, whereby R and R1 are not simultaneously H; R2 = H, alkyl, Ph; R3 = H or a usual functional group for the production of oligonucleotides; R4 = H, OH, halogen or XR5, whereby X = O or S and R5 represents a nucleotide protecting group; Base = adenine, cytosine, guanine, thymine, uracil, 2,6-diaminopurin-9-yl, hypoxanthin-9-yl, 5-methylcytosin-1-yl, 5-amino-4-imidazolcarbonic acid amid-1-yl or 5-amino-4-imidazolcarbonic acid amid-3-yl; for Base = adenine, cytosine or guanine, the primary amino function may be protected by a permanent protecting group] for use in photo-directed synthesis of oligonucleotides (no data) for use, e.g., in DNA chip technol. Thus, 3-ethylaniline was reacted with acetic anhydride to give 3-acetylamino-1-ethylbenzene (89%), which in turn gave 5-amino-1-ethyl-2-nitrobenzene (II) (28%) on reaction with sulfuric acid and potassium nitrate, along with other mono- and dinitrated compds. Treatment of II with concentrate HCl, followed by diazotization with NaN3 and

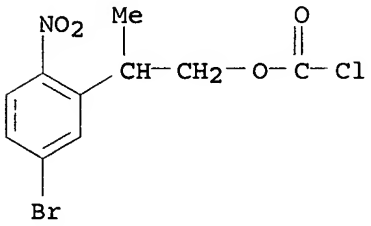
further reaction with HCl and CuCl, gave 5-chloro-1-ethyl-2-nitrobenzene (III) (46%); using different acids gave iodo, bromo, and dinitro compds. as well. III was then reacted with paraformaldehyde and potassium tert.-butylate to give, after work-up, 2-(5-chloro-2-nitrophenyl)propanol (84%), which was treated with trichloromethyl chloroformate to give 2-(5-chloro-2-nitrophenyl)propoxy carbonyl chloride (IV) (97%). Treatment of N6-phenoxyacetyl-2'-deoxyadenosine with IV gave I (R = Cl, R1 = ,H, R2 = CH3, R3, R4 = H, Base = N6-phenoxyacetyladenine) (V) (74%). In photolysis expts., V had a half-life of 35 s. and a deprotection rate of 97% after 5 min; six other compds. ranged from 75% after 10 min. to 95% after 5 min.

IT 335201-60-0P 335201-61-1P 335201-62-2P
335201-63-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and use of 2-(2-nitrophenyl)alkoxycarbonyl derivs. as photo-labile 5'-O-protecting groups for ribo- or 2'-deoxy-ribo-nucleotides for photo-directed oligonucleotide synthesis)

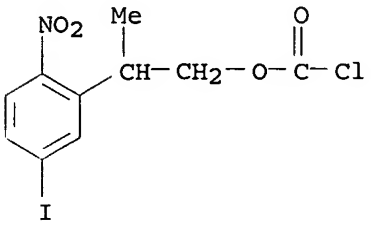
RN 335201-60-0 CAPLUS
CN Carbonochloridic acid, 2-(5-chloro-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 335201-61-1 CAPLUS
CN Carbonochloridic acid, 2-(5-bromo-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)

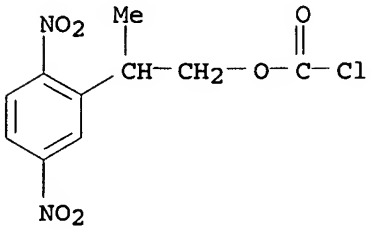


RN 335201-62-2 CAPLUS
CN Carbonochloridic acid, 2-(5-iodo-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 335201-63-3 CAPLUS

CN Carbonochloridic acid, 2-(2,5-dinitrophenyl)propyl ester (9CI) (CA INDEX NAME)



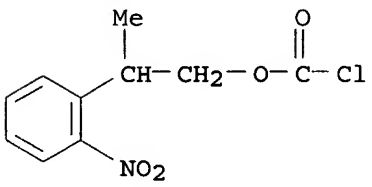
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:221308 CAPLUS
DOCUMENT NUMBER: 134:367130
TITLE: 3'-Nitrophenylpropyloxycarbonyl (NPPOC) Protecting Groups for High-Fidelity Automated 5'→3' Photochemical DNA Synthesis
AUTHOR(S): Pirrung, Michael C.; Wang, Laixin; Montague-Smith, Michael P.
CORPORATE SOURCE: Department of Chemistry Levine Science Research Center, Duke University, Durham, NC, 27708, USA
SOURCE: Organic Letters (2001), 3(8), 1105-1108
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:367130

AB The most powerful DNA micro-arrays would be prepared by photolithog. with free 3'-ends that could be processed enzymically. A photo-removable group that could be removed in quant. yield would ensure high purity of the synthesized probes. We have developed new pyrimidine building blocks for 5'→3' DNA synthesis with high cycle yields using the NPPOC (3'-nitrophenylpropyloxycarbonyl) protecting group. These phosphoramidites were proved in automated photochem. DNA synthesis on a modified synthesizer.

IT 179691-31-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(3'-nitrophenylpropyloxycarbonyl (NPPOC) protecting groups for high-fidelity automated 5'→3' photochem. DNA synthesis)

RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

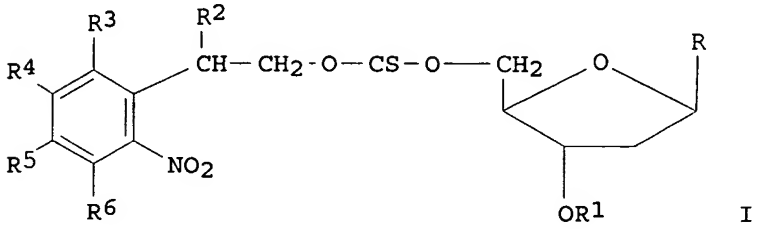
L5 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:137226 CAPLUS
DOCUMENT NUMBER: 134:178767
TITLE: Preparation of nucleoside derivatives capable of undergoing UV-photolysis for oligonucleotide synthesis
INVENTOR(S): Berlin, Kurt
PATENT ASSIGNEE(S): Epigenomics A.-G., Germany
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012642	A2	20010222	WO 2000-DE2755	20000810 <--
WO 2001012642	A3	20010607		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19938092	A1	20010222	DE 1999-19938092	19990812 <--
EP 1325016	A2	20030709	EP 2000-962214	20000810 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.:
DE 1999-19938092 A 19990812
WO 2000-DE2755 W 20000810

OTHER SOURCE(S): MARPAT 134:178767
GI



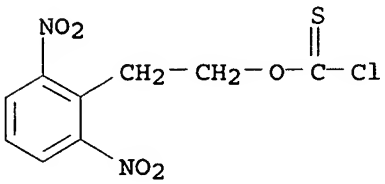
I

AB Disclosed are novel nucleoside derivs. of general formula [(I); R = nucleobase or nucleobase with at least one protective group; R1 = H, P(N(C(CH3)2)2)O(CH2)2CN; R2 = H, alkyl; R3 = H, NO2, alkyl; R4, R5 = independently, H, alkyl, alkoxy; or together = -OCH2O-; R6 = H, alkyl], which can easily be split by means of UV light and can be used for synthesis of oligonucleotides. Thus, 2,6-dinitrotoluene was treated with DMSO and KOC(CH3)3 in HOC(CH3)3 to give 2,6(NO2)2C6H3CH2CH2OH, which was condensed with Cl2C(S) to give the thiocarbonyl chloride, which was reacted with thymidine to give I (R = thymine; R1, R2, R4, R5, R6 = H; R3 = NO2) in 30% yield. An example of photolysis of I (R = thymine; R1 - R6 = H) was given.

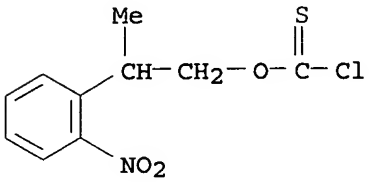
IT 325974-99-0P 325975-01-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nucleoside derivs. capable of undergoing UV-photolysis for oligonucleotide synthesis)

RN 325974-99-0 CAPLUS

CN Carbonochloridothioic acid, O-[2-(2,6-dinitrophenyl)ethyl] ester (9CI) (CA INDEX NAME)



RN 325975-01-7 CAPLUS
CN Carbonochloridothioic acid, O-[2-(2-nitrophenyl)propyl] ester (9CI) (CA INDEX NAME)



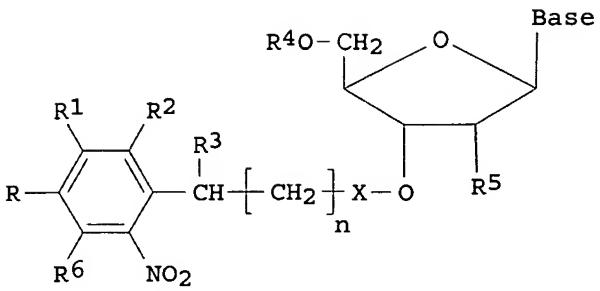
L5 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:742107 CAPLUS
DOCUMENT NUMBER: 133:282022
TITLE: Preparation of nucleoside derivatives with 3'O-photo-unstable protective groups for use in nucleic acid chip production
INVENTOR(S): Beier, Markus; Hoheisel, Jorg
PATENT ASSIGNEE(S): Deutsches Krebsforschungszentrum Stiftung des Offentlichen Rechts, Germany
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061594	A2	20001019	WO 2000-DE1148	20000407 <--
WO 2000061594	A3	20020404		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19915867	A1	20001019	DE 1999-19915867	19990408 <--
DE 10003631	A1	20010802	DE 2000-10003631	20000128 <--
AU 2000050598	A5	20001114	AU 2000-50598	20000407 <--
EP 1212338	A2	20020612	EP 2000-934905	20000407 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 6756492	B1	20040629	US 2002-958610	20020221
PRIORITY APPLN. INFO.:			DE 1999-19915867 A	19990408

DE 2000-10003631 A 20000128
WO 2000-DE1148 W 20000407

OTHER SOURCE(S): CASREACT 133:282022; MARPAT 133:282022

GI



I

AB The present invention relates to nucleoside derivs. [(I);R, R1, R2, R3, R6 = (independently) H, NO2, CN, OMe, halogen, alkyl, alkoxy, alkoxyalkyl, (un)substituted aryl, acyl; R4 = dimethoxytrityl, other protecting group, functional group for preparation of oligonucleotides; R5 = H, OH, X2R7; X2 = O, S; R7 = alkyl, alkoxyalkyl, (un)substituted aryl, acyl; n = 0, 1; X = SO2, OC(O), OC(S); Base = (un)protected natural or unnatural purine or pyrimidine base or 5-amino-4-imidazolaminocarbonyl-3-yl] with photo-labile protecting groups, useful for preparing nucleic acid chips with free 3'-OH groups for use with PCR or ligase reactions. Thus, protected deoxythymidine nucleoside was reacted with activated protecting group (preparation given) to give I [R, R1, R2 R5, R6 = H; R3 = CH3; R4 = (MeO-4-C6H4)2(Ph)C-; Base = N4-C(O)CH2O-4-C6H4-C(CH3)3-cytosine], which was 5'-deprotected and reacted with 2-cyanoethyl-N,N,N',N'-tetraisopropylphosphordiamidate to give I [R, R1, R2, R3, R5, R6 as given; R4 = P(N(CH(CH3)2)2)(OCH2CH2CN)(II)], which could then be 3'-deprotected (no data). Examples were given (no data) of the use of II-type compds. for the preparation of DNA chains on solid support (DNA chips) for use in, e.g., polymerase chain reactions to generate DNA mols. for use as fluorescent probes capable of hybridizing with sample DNA chains.

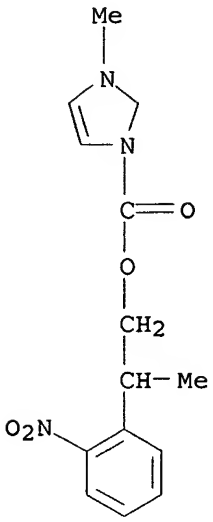
IT 298699-70-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of nucleoside derivs. with 3'O-photo-unstable protecting groups for use in nucleic acid chip production)

RN 298699-70-4 CAPLUS

CN 1H-Imidazolium, 1-methyl-3-[[2-(2-nitrophenyl)propoxy]carbonyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

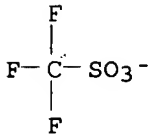
CRN 298699-69-1
CMF C14 H16 N3 O4



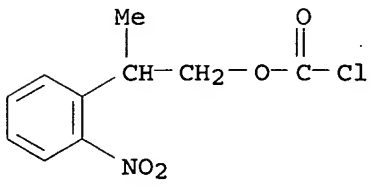
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

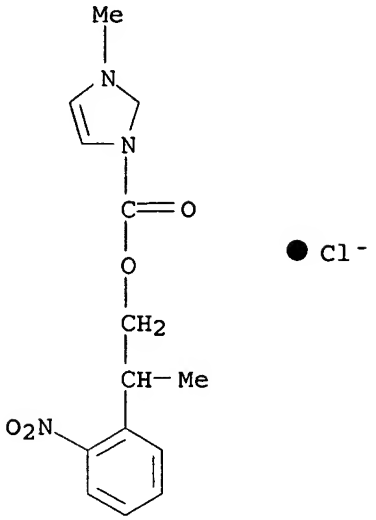
CRN 37181-39-8
CMF C F3 O3 S



IT 179691-31-7P 298699-67-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nucleoside derivs. with 3'O-photo-unstable protecting groups for use in nucleic acid chip production)
RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)

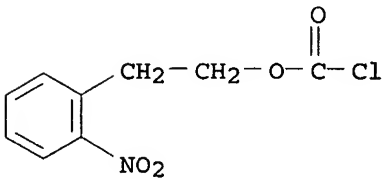


RN 298699-67-9 CAPLUS
CN 1H-Imidazolium, 1-methyl-3-[[2-(2-nitrophenyl)propoxy]carbonyl]-, chloride (9CI) (CA INDEX NAME)



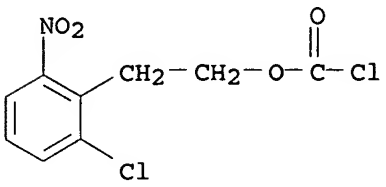
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L5 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:514893 CAPLUS
DOCUMENT NUMBER: 131:243502
TITLE: New photolabile protecting groups of the 2-(2-nitrophenyl)ethoxycarbonyl- and the 2-(2-nitrophenyl)ethylsulfonyl-type for the oligonucleotide synthesis
AUTHOR(S): Buhler, S.; Giegrich, H.; Pfleiderer, W.
CORPORATE SOURCE: Fakultat fur Chemie, Universitat Konstanz, Konstanz, D-78457, Germany
SOURCE: Nucleosides & Nucleotides (1999), 18(6 & 7), 1281-1283
CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A symposium on new photolabile blocking groups that have been synthesized and introduced into the 5'-OH position of thymidine. The 5'-O-protected thymidines were irradiated at 365 nm under identical conditions and the half-lives and thymidine yields were determined to investigate the influence of different substituents in the two corresponding series.
IT 179691-21-5P 179691-24-8P 179691-31-7P
244140-72-5P 244140-73-6P 244140-74-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(new photolabile protecting groups of the (nitrophenyl)ethoxycarbonyl and the (nitrophenyl)ethylsulfonyl-type for oligonucleotide synthesis)
RN 179691-21-5 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)

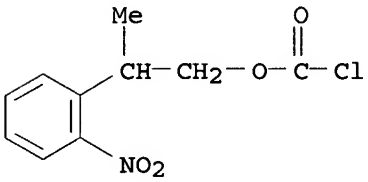


RN 179691-24-8 CAPLUS

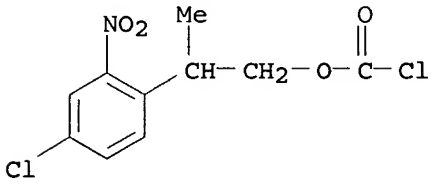
CN Carbonochloridic acid, 2-(2-chloro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



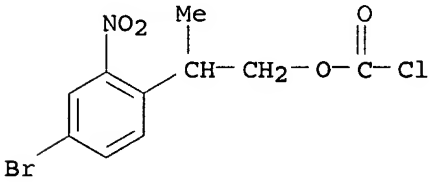
RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



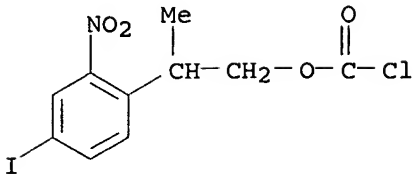
RN 244140-72-5 CAPLUS
CN Carbonochloridic acid, 2-(4-chloro-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 244140-73-6 CAPLUS
CN Carbonochloridic acid, 2-(4-bromo-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 244140-74-7 CAPLUS
CN Carbonochloridic acid, 2-(4-iodo-2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



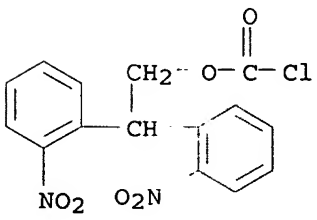
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:479422 CAPLUS
DOCUMENT NUMBER: 131:228938
TITLE: Photo-Cleavable Protecting Groups as Nucleobase Protections Allowed the Solid-Phase Synthesis of Base-Sensitive SATE-Prooligodeoxyribonucleotides
AUTHOR(S): Alvarez, Karine; Vasseur, Jean-Jacques; Beltran, Thierry; Imbach, Jean-Louis
CORPORATE SOURCE: Laboratoire de Chimie Bio-Organique UMR 5625 CNRS-UM II, Universite Montpellier II, Montpellier, 34095, Fr.
SOURCE: Journal of Organic Chemistry (1999), 64(17), 6319-6328
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:228938

AB The first synthesis of oligodeoxynucleotide heteropolymers carrying base-sensitive S-pivaloylthioethyl (t-Bu-SATE) phosphotriester linkages has been performed. It is based on the use of 6-nitroveratryloxycarbonyl (NVOC) and 2,2'-bis(2-nitrophenyl)ethoxycarbonyl (diNPEOC) groups as nucleobase protections in combination with photolysis deprotection. The synthesis was realized using the phosphoramidite approach on solid support bearing a 1-(o-nitrophenyl)-1,3-propanediol linker. The removal of the protecting groups and the cleavage of the oligonucleotides from the solid support were accomplished in a single photolysis procedure upon UV irradiation at wavelengths >300 nm. Faster deprotection rates were observed for diNPEOC-protected nucleosides and oligomers than with NVOC-protected ones. The synthesis of pentanucleoside t-Bu-SATE-phosphotriesters d(5'TpCpCpCpTp3'), d(5'TpApApApAp3'), and d(5'TpGpGpGpTp3') and of dodecanucleoside t-Bu-SATE-phosphotriesters and -phosphorothioate d(5'ApCpApCpCpCpApApTpTpCpTp3') and d(5'ApGpApApTpTpGpGpGpTpGpTp3') demonstrated the efficiency of the method.

IT 189216-43-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(photocleavable protecting groups as nucleobase protections allowed the solid phase synthesis of base-sensitive SATE-prooligodeoxyribonucleotides)

RN 189216-43-1 CAPLUS
CN Carbonochloridic acid, 2,2-bis(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



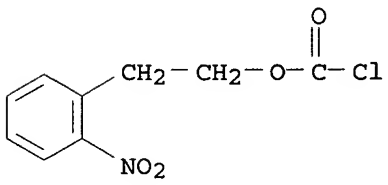
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:216197 CAPLUS
DOCUMENT NUMBER: 126:305727
TITLE: Photolabile protecting groups for nucleosides: synthesis and photo-deprotection rates
AUTHOR(S): Hasan, Ahmad; Stengele, Klaus-Peter; Giegrich, Heiner; Cornwell, Paul; Isham, Kenneth R.; Sachleben, Richard A.; Pfleiderer, Wolfgang; Foote, Robert S.
CORPORATE SOURCE: Biology Div., Oak Ridge National Lab., Oak Ridge, TN, 37831-8080, USA
SOURCE: Tetrahedron (1997), 53(12), 4247-4264
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

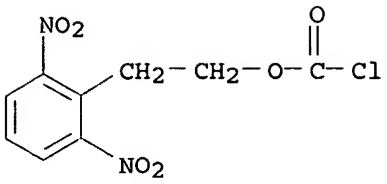
AB O-Nitrobenzyloxycarbonyl and a number of related groups have been tested for the photolabile protection of nucleoside 5'-hydroxyls. The rates of photo-deprotection vary by approx. 17-fold in a series of 5'-O-protected thymidine derivs. irradiated at 365 nm under identical conditions. The homologous 2-(o-nitrophenyl)ethoxycarbonyl group and its derivs. were found to be removed approx. 2-fold faster than the corresponding o-nitrobenzyloxycarbonyl group, possibly due to an increased rate of α-hydrogen abstraction by the photo-excited nitro group. Photolysis rates were affected by substitutions on both the Ph ring and α-carbon, with the strongest rate enhancements caused by the presence of a Me or second o-nitrophenyl group in the α-position . Among the ring-substituted derivs. studied, o-nitro and o-iodo had the strongest enhancement effects on photodeprotection, while an o-fluoro group reduced the rate of photodeprotection. In general, substitution at other positions on the Ph ring had less effect on photolysis rates.

IT 179691-21-5P 179691-22-6P 179691-23-7P
179691-24-8P 179691-25-9P 179691-27-1P
179691-29-3P 179691-31-7P 189216-43-1P
189216-56-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nitrobenzyloxycarbonyl photolabile protecting group for nucleosides preparation and photo-deprotection rates)

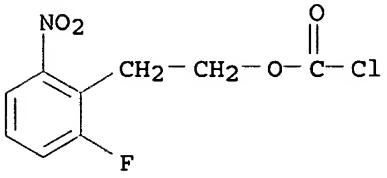
RN 179691-21-5 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



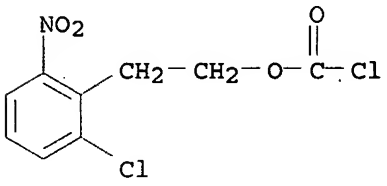
RN 179691-22-6 CAPLUS
CN Carbonochloridic acid, 2-(2,6-dinitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



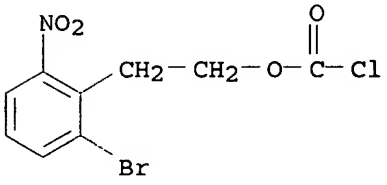
RN 179691-23-7 CAPLUS
CN Carbonochloridic acid, 2-(2-fluoro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



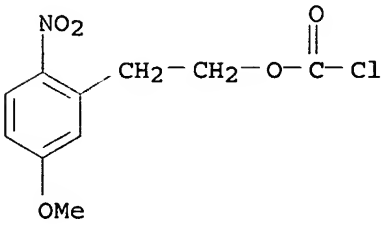
RN 179691-24-8 CAPLUS
CN Carbonochloridic acid, 2-(2-chloro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



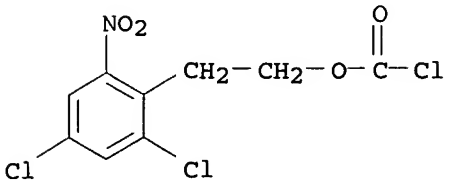
RN 179691-25-9 CAPLUS
CN Carbonochloridic acid, 2-(2-bromo-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



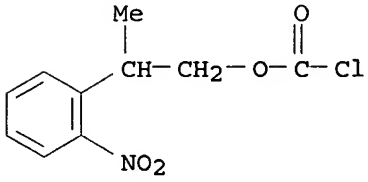
RN 179691-27-1 CAPLUS
CN Carbonochloridic acid, 2-(5-methoxy-2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



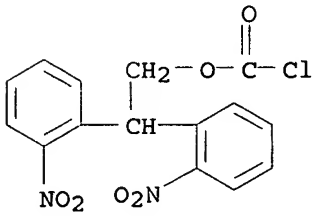
RN 179691-29-3 CAPLUS
CN Carbonochloridic acid, 2-(2,4-dichloro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



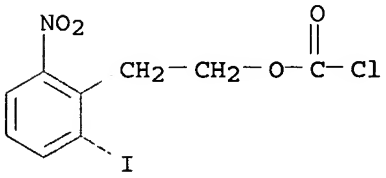
RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



RN 189216-43-1 CAPLUS
CN Carbonochloridic acid, 2,2-bis(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



RN 189216-56-6 CAPLUS
CN Carbonochloridic acid, 2-(2-iodo-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

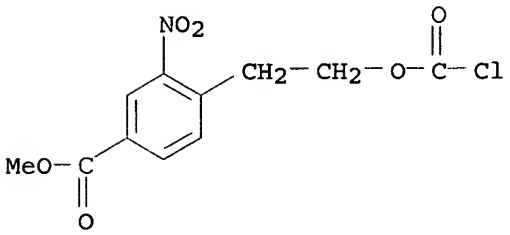
L5 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:701792 CAPLUS
DOCUMENT NUMBER: 126:31567
TITLE: New carbamate supports for the preparation of 3'-amino-modified oligonucleotides

AUTHOR(S): Avino, Anna; Garcia, Ramon Guimil; Albericio, Fernando; Mann, Matthias; Wilm, Matthias; Neubauer, Gitte; Eritja, Ramon
CORPORATE SOURCE: Dep. Molecular Biol., Cent. Investigacion Desarrollo-CSIC, Barcelona, E-08034, Spain
SOURCE: Bioorganic & Medicinal Chemistry (1996), 4(10), 1649-1658
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel approach for the preparation of oligodideoxyribonucleotides carrying amino groups at the 3'-end is described. Several CPG supports having aminoalkyl groups and 3'-amino-2',3'-dideoxynucleosides linked through basic-labile carbamate linkages such as 2-(2-nitrophenyl)ethoxycarbonyl and fluorenylmethoxycarbonyl were prepared using two different strategies. These supports are compatible to the standard solid phase phosphite-triester methodol. and yield oligonucleotides containing amino groups at the 3'-end. Several properties of the 3'-amino oligonucleotides, such as nuclease resistance, hybridization, and preparation of oligonucleotide conjugates are discussed.

IT 134403-97-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(new carbamate supports for the preparation of aminooligonucleotides)

RN 134403-97-7 CAPLUS
CN Benzoic acid, 4-[2-[(chlorocarbonyl)oxy]ethyl]-3-nitro-, methyl ester (9CI) (CA INDEX NAME)

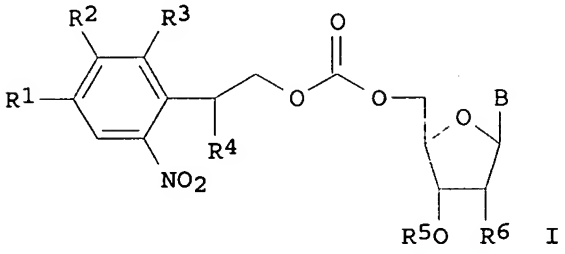


L5 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:483513 CAPLUS
DOCUMENT NUMBER: 125:143236
TITLE: Preparation of nucleoside derivatives with photolabile protecting groups.
INVENTOR(S): Pfleiderer, Wolfgang; Giegrich, Heiner
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 23 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4444996	A1	19960620	DE 1994-4444996	19941216 <--
CA 2207912	AA	19960620	CA 1995-2207912	19951215 <--
WO 9618634	A2	19960620	WO 1995-EP4976	19951215 <--
WO 9618634	A3	19960822		
W: AU, BR, CA, CZ, FI, HU, JP, KR, MX, NO, PL, SK, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9643865	A1	19960703	AU 1996-43865	19951215 <--
AU 692658	B2	19980611		

EP 797580	A2	19971001	EP 1995-942675		19951215 <--
EP 797580	B1	20020410			
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE					
HU 77176	A2	19980302	HU 1997-1821		19951215 <--
HU 215543	B	19990128			
BR 9510498	A	19991130	BR 1995-10498		19951215 <--
IL 116407	A1	20010913	IL 1995-116407		19951215 <--
AT 215957	E	20020415	AT 1995-942675		19951215 <--
ES 2174976	T3	20021116	ES 1995-942675		19951215 <--
CZ 292296	B6	20030813	CZ 1997-1836		19951215 <--
US 5763599	A	19980609	US 1996-693217		19960809 <--
NO 9702754	A	19970811	NO 1997-2754		19970613 <--
NO 307382	B1	20000327			
FI 9703643	A	19970909	FI 1997-3643		19970909 <--
PRIORITY APPLN. INFO.:			DE 1994-4444996	A	19941216
			WO 1995-EP4976	W	19951215

OTHER SOURCE(S): MARPAT 125:143236
GI

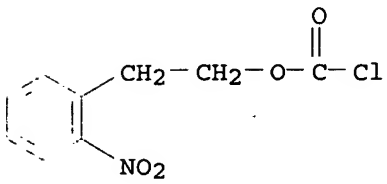


I

AB Title compds. [I; R1 = H, NO2, CN, OMe; R2 = H, OMe; R3 = H, F, Cl, Br, NO2; R5 = H, NCCH2CH2OPN(R7)2, p-O2NC6H4CH2CH2OPN(R7)2; R7 = alkyl; R6 = H, OH, alkoxy, alkenyloxy, or acetal, silyl ether protecting groups; B = (protected) adenine, cytosine, guanine, thymine, uracil residues], were prepared Thus, thymidine in pyridine was treated with 2-(2-nitrophenyl)ethoxycarbonyl chloride (preparation given) to give 5'-O-[2-(2-nitrophenyl)ethoxycarbonyl]thymidine. the latter showed t1/2 = 2.6 min. for photodeprotection using a high pressure Hg lamp.

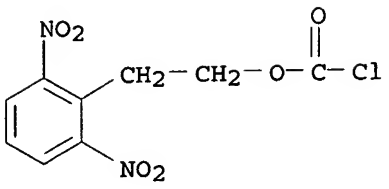
IT 179691-21-5P 179691-22-6P 179691-23-7P
179691-24-8P 179691-25-9P 179691-26-0P
179691-27-1P 179691-29-3P 179691-30-6P
179691-31-7P 179691-33-9P 179691-35-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nucleoside derivs. with photolabile protecting groups)

RN 179691-21-5 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)

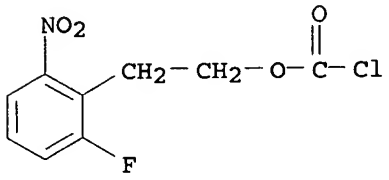


RN 179691-22-6 CAPLUS
CN Carbonochloridic acid, 2-(2,6-dinitrophenyl)ethyl ester (9CI) (CA INDEX

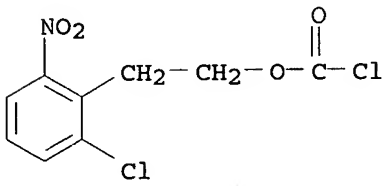
NAME)



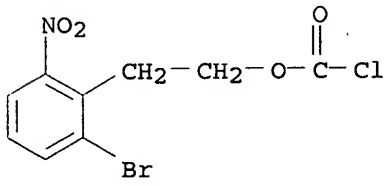
RN 179691-23-7 CAPLUS
CN Carbonochloridic acid, 2-(2-fluoro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



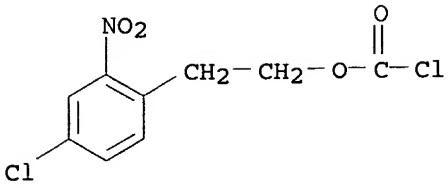
RN 179691-24-8 CAPLUS
CN Carbonochloridic acid, 2-(2-chloro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



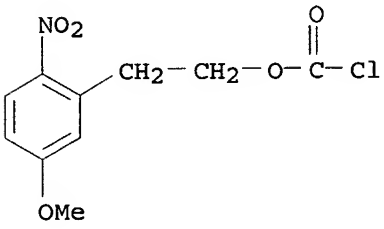
RN 179691-25-9 CAPLUS
CN Carbonochloridic acid, 2-(2-bromo-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



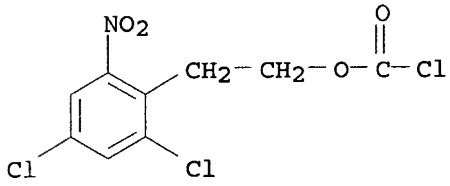
RN 179691-26-0 CAPLUS
CN Carbonochloridic acid, 2-(4-chloro-2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



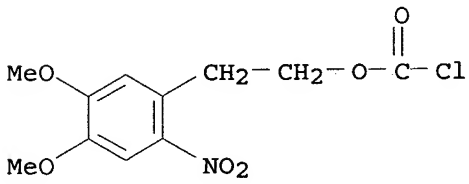
RN 179691-27-1 CAPLUS
CN Carbonochloridic acid, 2-(5-methoxy-2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



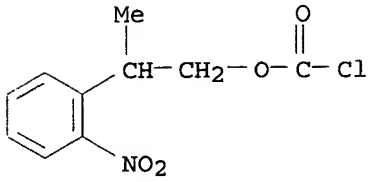
RN 179691-29-3 CAPLUS
CN Carbonochloridic acid, 2-(2,4-dichloro-6-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



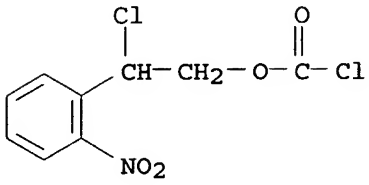
RN 179691-30-6 CAPLUS
CN Carbonochloridic acid, 2-(4,5-dimethoxy-2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



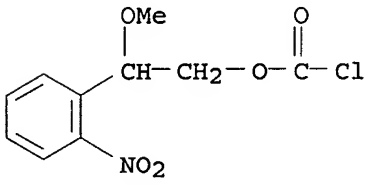
RN 179691-31-7 CAPLUS
CN Carbonochloridic acid, 2-(2-nitrophenyl)propyl ester (9CI) (CA INDEX NAME)



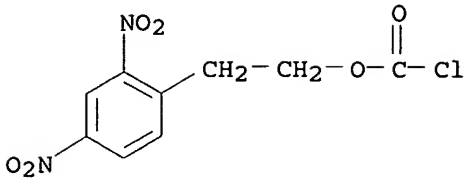
RN 179691-33-9 CAPLUS
CN Carbonochloridic acid, 2-chloro-2-(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



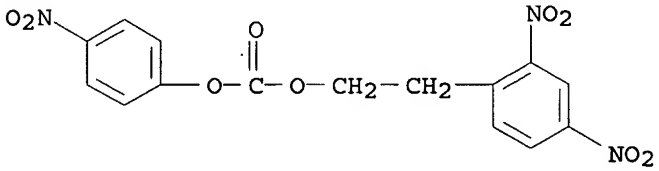
RN 179691-35-1 CAPLUS
CN Carbonochloridic acid, 2-methoxy-2-(2-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



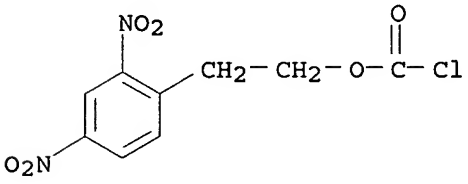
L5 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:409092 CAPLUS
DOCUMENT NUMBER: 119:9092
TITLE: Nucleosides. Part LI. The 2-(4-nitrophenyl)ethoxycarbonyl (npeoc) and 2-(2,4-dinitrophenyl)ethoxycarbonyl (dnpeoc) groups for protection of hydroxy functions in ribonucleosides and 2'-deoxyribonucleosides
AUTHOR(S): Schirmeister, Helga; Himmelsbach, Frank; Pfleiderer, Wolfgang
CORPORATE SOURCE: Fak. Chem., Univ. Konstanz, Konstanz, D-7750, Germany
SOURCE: Helvetica Chimica Acta (1993), 76(1), 385-401
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The common 2'-deoxypyrimidine and -purine nucleosides, thymidine, O4-[2-(4-nitrophenyl)ethyl]thymidine, 2'-deoxy-N4-[2-(4-nitrophenyl)ethoxycarbonyl]cytidine, 2'-deoxy-N6-[2-(4-nitrophenyl)-ethoxycarbonyl]adenosine, and 2'-deoxy-N2-[2-(4-nitrophenyl)ethoxycarbonyl]-O6-[2-(4-nitrophenyl)ethyl]-guanosine were further protected by the 2-(4-nitrophenyl)ethoxycarbonyl and the 2-(2,4-dinitrophenyl)ethoxycarbonyl group at the OH functions of the sugar moiety to form new partially and fully blocked intermediates for nucleoside and nucleotide syntheses. The newly synthesized compds. were characterized by elemental analyses and UV and 1H NMR spectra.
IT 111234-22-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with nucleosides)
RN 111234-22-1 CAPLUS
CN Carbonochloridic acid, 2-(2,4-dinitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



L5 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:634468 CAPLUS
DOCUMENT NUMBER: 117:234468
TITLE: N-2-(2,4-Dinitrophenyl)ethyloxycarbonyl-amino acids, new base labile protected derivatives suitable for solid-phase peptide synthesis
AUTHOR(S): Acedo, Montse; Albericio, Fernando; Eritja, Ramon
CORPORATE SOURCE: Dep. Mol. Genet., CSIC, Barcelona, 08034, Spain
SOURCE: Tetrahedron Letters (1992), 33(34), 4989-92
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:234468
AB The base labile N-2-(2,4-dinitrophenyl)ethyloxycarbonyl (Dnpeoc) group has been developed for the protection of the α-amino group of amino acids. Preparation of Dnpeoc-amino acids and their application to solid-phase peptide synthesis are described.
IT 144481-14-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and protection by, of amino acids)
RN 144481-14-1 CAPLUS
CN Carbonic acid, 2-(2,4-dinitrophenyl)ethyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)



IT 111234-22-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, condensation of, with hydroxysuccinimide, or protection by, of amino acids)
RN 111234-22-1 CAPLUS
CN Carbonochloridic acid, 2-(2,4-dinitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



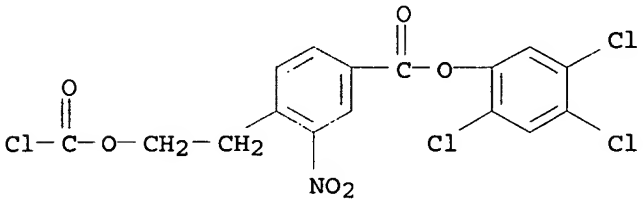
L5 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:470220 CAPLUS

DOCUMENT NUMBER: 117:70220
TITLE: A synthetic procedure for the preparation of oligonucleotides without using ammonia and its application for the synthesis of oligonucleotides containing O-4-alkyl thymidines
AUTHOR(S): Eritja, Ramon; Robles, Jordi; Avino, Anna; Albericio, Fernando; Pedroso, Enrique
CORPORATE SOURCE: Dep. Mol. Genet., CSIC, Barcelona, 08034, Spain
SOURCE: Tetrahedron (1992), 48(20), 4171-82
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English

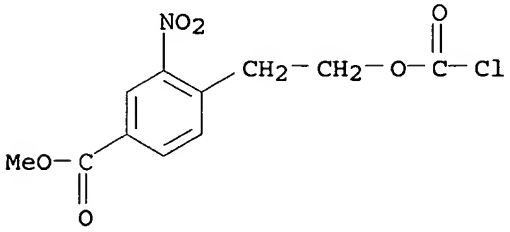
AB The preparation of 5'-O-dimethoxytrityl (DMT) and p-nitrophenylethyl (NPEOC, NPE) protected nucleosides linked to 4-(2-hydroxyethyl)-3-nitrobenzoic acid derivs. is described. These products attached to controlled-pore glass supports and together with DMT and NPE-protected nucleoside cyanoethyl phosphoramidites permits a first time preparation of short (6-13 bases) oligonucleotides containing the ammonia sensitive mutagenic bases O-4-Pr and O-4-Bu thymidines, 5' GCTprAGC 3' and 5' GCTbuAGC 3'.

IT 134403-92-2P 134403-97-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion to protected nucleosides)

RN 134403-92-2 CAPLUS
CN Benzoic acid, 4-[2-[(chlorocarbonyl)oxy]ethyl]-3-nitro-, 2,4,5-trichlorophenyl ester (9CI) (CA INDEX NAME)

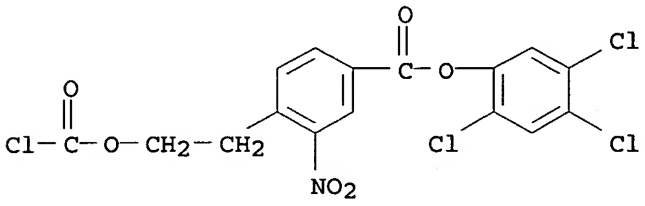


RN 134403-97-7 CAPLUS
CN Benzoic acid, 4-[2-[(chlorocarbonyl)oxy]ethyl]-3-nitro-, methyl ester (9CI) (CA INDEX NAME)

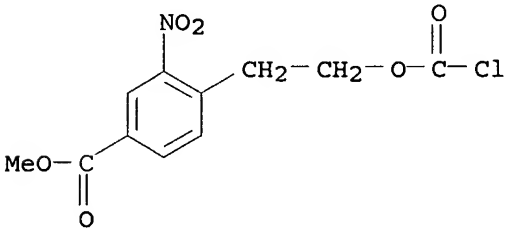


L5 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:429800 CAPLUS
DOCUMENT NUMBER: 115:29800
TITLE: NPE-resin, a new approach to the solid-phase synthesis of protected peptides and oligonucleotides. I. Synthesis of the supports and their application to oligonucleotide synthesis
AUTHOR(S): Eritja, Ramon; Robles, Jordi; Fernandez-Forner, Dolors; Albericio, Fernando; Giralt, Ernest; Pedroso, Enrique
CORPORATE SOURCE: Dep. Mol. Genet., CSIC, Barcelona, E-08034, Spain
SOURCE: Tetrahedron Letters (1991), 32(11), 1511-14

CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The preparation of polymeric supports containing a base labile 2-(2-nitrophenyl) Et linkage and the attachment of protected nucleosides is described together with their application to oligonucleotide synthesis.
IT 134403-92-2P 134403-97-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with thymidine derivative)
RN 134403-92-2 CAPLUS
CN Benzoic acid, 4-[2-[(chlorocarbonyl)oxy]ethyl]-3-nitro-, 2,4,5-trichlorophenyl ester (9CI) (CA INDEX NAME)



RN 134403-97-7 CAPLUS
CN Benzoic acid, 4-[2-[(chlorocarbonyl)oxy]ethyl]-3-nitro-, methyl ester (9CI) (CA INDEX NAME)



L5 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:38280 CAPLUS
DOCUMENT NUMBER: 108:38280
TITLE: New protecting groups in nucleoside and nucleotide chemistry
AUTHOR(S): Pfleiderer, W.; Schirmeister, H.; Reiner, T.; Pfister, M.; Charubala, R.
CORPORATE SOURCE: Fak. Chem., Univ. Konstanz, Konstanz, D-7750, Fed. Rep. Ger.
SOURCE: Bioactive Molecules (1987), 3(Biophosphates Their Analogues), 133-42
CODEN: BMOLEY; ISSN: 0921-0687
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Various β-heteroarylethyl groups were developed as a new set of phosphate protecting groups. Cleavage proceeds by β-elimination due to activation of the β-hydrogen atoms by the ring nitrogens of the heterocycle. Sugar hydroxyl groups can effectively be blocked by the p-nitrophenylethoxycarbonyl (NPEOC) and the 2,4-dinitrophenylethoxycarbonyl (DNPEOC) group to give carbonates of different stability. Selective deprotection of the DNPEOC over the NPEOCv residue can be achieved. The o-nitrophenylethyl group is not only prone to β-elimination cleavage but also to photolytic removal. The

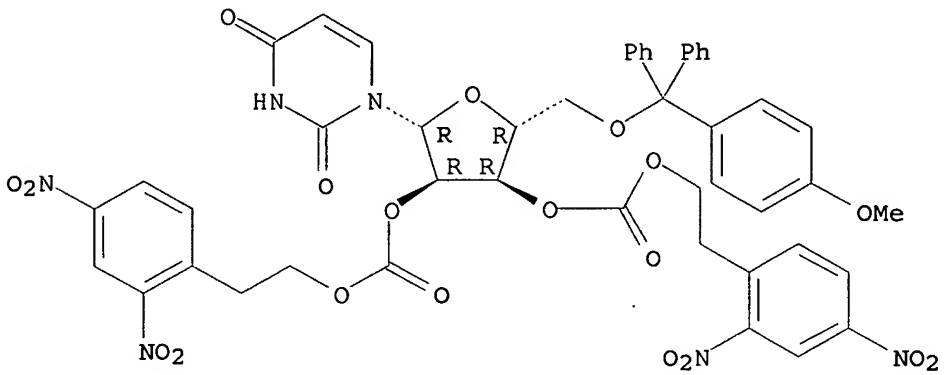
p-nitrophenylethylsulfonyl (NPES) group is a new OH-protecting group especially suitable for blocking the 2'-OH position in ribonucleosides. Stable 2'-sulfonates are formed, which do not show intramol. acyl migration but undergo β-elimination on removal.

IT 112123-78-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(deprotection of)

RN 112123-78-1 CAPLUS

CN Uridine, 5'-O-[(4-methoxyphenyl)diphenylmethyl]-, 2',3'-bis[2-(2,4-dinitrophenyl)ethyl carbonate] (9CI) (CA INDEX NAME)

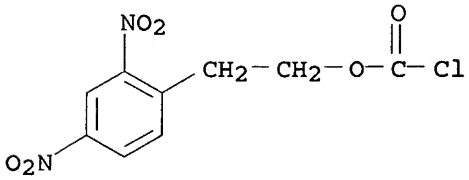
Absolute stereochemistry.



IT 111234-22-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(protection of hydroxy group of nucleosides by reaction with)

RN 111234-22-1 CAPLUS

CN Carbonochloridic acid, 2-(2,4-dinitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



L5 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:618016 CAPLUS

DOCUMENT NUMBER: 107:218016

TITLE: Preparation of 5'-acylated deoxyribonucleosides as intermediates in oligonucleotide synthesis

INVENTOR(S): Pfleiderer, Wolfgang

PATENT ASSIGNEE(S): Fed. Rep. Ger.

SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

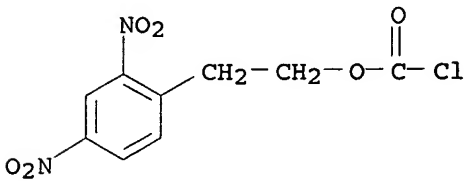
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3606395	A1	19870903	DE 1986-3606395	19860227 <--
PRIORITY APPLN. INFO.:			DE 1986-3606395	19860227

OTHER SOURCE(S): CASREACT 107:218016
AB 2'-Deoxyribonucleosides protected at the 5'-position by a base-labile group were prepared for use in synthesis of oligodeoxyribonucleotides. Thus, (2,4-dinitrophenyl)ethyl chloroformate in CH2Cl2 was added to thymidine in pyridine at 0° to give 56% 5'-[O-(2,4-dinitrophenyl)ethoxycarbonyl]thymidine.
IT 111234-22-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of thymidine derivative)
RN 111234-22-1 CAPLUS
CN Carbonochloridic acid, 2-(2,4-dinitrophenyl)ethyl ester (9CI) (CA INDEX NAME)



=> d HIS

(FILE 'HOME' ENTERED AT 12:30:16 ON 30 AUG 2006)

FILE 'REGISTRY' ENTERED AT 12:30:30 ON 30 AUG 2006
L1 STRUCTURE UPLOADED
L2 2 S L1 SSS SAM
L3 56 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 12:32:39 ON 30 AUG 2006
L4 29 S L3
L5 22 S L4 AND 1800<=PY<=2003